

UNIFIED VISION FOR THE FUTURE:
RIVERINE SQUADRONS AND THE SECURITY COOPERATION MAGTF

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General Studies

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ABSTRACT

UNIFIED VISION OF THE FUTURE: RIVERINE SQUADRONS AND THE SECURITY COOPERATION MAGTF, by Michael A. Stolzenburg, 118 pages.

The U.S. Navy riverine squadrons are currently operating in Iraq. They were formed in response to a requirement for a riverine capability and Navy need for greater relevance in the Global War on Terror. Historically, riverine forces have an episodic history; formed for conflicts and discarded at their conclusion. The requirement were superseded by budget requirements for maintenance of the Mahanian fleet. At the conclusion of the War in Iraq, the Navy will face that same decision.

The Marine Corps plans to fulfill its non-traditional support of National Defense Strategy by creating a Security Cooperation MAGTF. It will provide a persistent, forward deployed Marine presence in a manner that meets the strategic security cooperation needs of the Department of Defense.

The integration of the Navy's riverine force and the Marine Corps SCMAGTF will give the RIVRON a sustainable relevance that will institutionalize it and enhance the SCMAGTF Theater Security Cooperation capacity.

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Most importantly, as in every aspect of my life, my wife Melissa supported my year as a geographic bachelor and used that against me to influence my decision to pursue a Master's Degree. I get up every morning knowing that I am another day closer to coming home to her. This effort is for her. Thanks for the Land Rover.

This research was less about earning a Master's Degree than assuming the mantle of a Field Grade professional. It was no secret that my preference would have been to remain an operator, a Captain, and never have to drink from the cup of a staff officer. It was only by doing this research that I began to understand the importance and significance of doing something other than strapping on a pistol and leaving the wire with the boys.

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ACRONYMS

AAV	Amphibious Assault Vehicle
ACE	Air Combat Element
AFRICOM	Africa Command
AO	Area of Operations
AOR	Area of Responsibility
CA	Civil Affairs
C2	Command and Control
C3	Command, Control and Communication
CENTCOM	Central Command
CJCS	Chairman, Joint Chiefs of Staff
CLE	Combat Logistics Element
CONOP	Concept of Operations
CPOF	Command Post of the Future
CNO	Chief of Naval Operations
CRRC	Combat Rubber Raiding Craft
CSL	Cooperative Security Location
DOD	Department of Defense
DOTMLPF	Doctrine, Organization, Materiel, Leadership, Personnel, Facilities
DSU	Dam Security Unit
ECRC	Expeditionary Combat Readiness Center
ETC	Expeditionary Training Command
FAO	Foreign Area Officer
FOB	Forward Operating Base

FOS	Forward Operating Site
GCE	Ground Combat Element
GFS	Global Fleet Station
GPF	General Purpose Forces
IPB	Intelligence Preparation of the Battlefield
IW	Irregular Warfare
JCIDS	Joint Capabilities Integration and Development System
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime Component Commander
JP	Joint Publication
JROC	Joint Requirements Oversight Council
LCPO	Lead Chief Petty Officer
LOA	Length Over All
LOC	Lines of Communication
LREC	Language Skills Regional Expertise and Cultural Awareness
LST	Landing Ship, Tank
LTJG	Lieutenant, Junior Grade
LWC	Long War Concept
MACV	Military Assistance Command, Vietnam
MAGTF	Marine Air Ground Task Force
MCO	Major Combat Operations
MEF	Marine Expeditionary Force
MESF	Marine Expeditionary Security Force
METL	Mission Essential Task List
MEU	Marine Expeditionary Unit

MIO	Maritime Interception Operations
MORE	Military Operations in a Riverine Environment
MOS	Military Occupational Specialty
MPF	Maritime Prepositioning Fleet
MRB	Mobile Riverine Base
MRF	Mobile Riverine Force
MSO	Maritime Security Cooperation
N1	Navy Administration
N2	Navy Intelligence
N3	Navy Operations
N4	Navy Logistics
N5	Navy Training
N6	Navy Communications
NCF	Naval Construction Force
NDS	National Defense Strategy
NECC	Naval Expeditionary Combat Command
NMS	National Military Strategy
NOC	Naval Operations Concept
NSW	Naval Surface Warfare
OOTW	Operations Other Than War
OSD	Office of the Secretary of Defense
PBC	Partner Building Capacity
PCF	Patrol Craft, Fast
POE	Planned Operating Environment
PPBE	Planning, Programming, Budgeting, and Execution

QDR	Quadrennial Defense Review
RAB	Riverine Assault Boat
RAC	Riverine Assault Craft
RAO	Regional Area Officer
RCB	Riverine Command Boat
RIVGRU	Riverine Group
RIVRON	Riverine Squadron
RPB	Riverine Patrol Boat
RRC	Rigid Raiding Craft
SAR	Search and Rescue
SC	Security Cooperation
SCMAGTF	Security Cooperation Marine Air Ground Task Force
SEABEES	Naval Construction Forces Command
SMART-T	Secure Mobile Anti-Jam Reliable Tactical Terminal
SMTTC	Special Missions Training Center
SOCOM	Special Operations Command
SOUTHCOM	Southern Command
SURC	Small Unit Riverine Craft
SWO	Surface Warfare Officer
TSC	Theatre Security Cooperation
TTP	Tactics, Techniques and Procedures
UAV	Unmanned Aerial Vehicle
UDP	Unit Deployment Program
USCG	United States Coast Guard
USV	Unmanned Surface Vehicle

UUV	Unmanned Underwater Vehicle
VBSS	Visit Board Search and Seizure
WMD	Weapons of Mass Destruction
WPB	Coastal Patrol Boat

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CHAPTER 1

INTRODUCTION, BACKGROUND AND DEFINITION OF TOPIC

Among the key programmatic decision the QDR proposes to launch in Fiscal Year 2007 are the following: To strengthen forces to defeat terrorist networks, ...The Navy will support a U.S. SOCOM increase in SEAL Team manning and will develop a riverine warfare capability.

U.S. Department of Defense 2006

Introduction

In 2006, the United States Marine Corps decommissioned the last of its riverine units and transferred its riverine craft and equipment to the United States Navy, who commenced riverine operations on the Euphrates River in Al Anbar, Iraq. The deployment of Riverine Squadron One was the Navy's re-introduction into operations on the brown, inland waterways far from its normal deep blue domain. This moment was an important first step for the Navy, potentially signaling a commitment to non-traditional missions normally forgotten in the giant budget and organization of the blue water fleet.

Historically, the American Navy formed riverine forces only when required during a major conflict. At the conclusion of each episode, the Navy disbanded the riverine forces and scrapped, mothballed, sold or gave away the craft. From the American Revolution to the start of the 1900's, the United States focused on self-defense and westward expansion. America had not industrialized, so when river operations were conducted, those involved built craft locally, conducted the operations and continued on their way. In the Twentieth Century, the U.S. Navy funded and built the fleet around the Mahanian concepts of maintaining freedom of the seas for commerce and power projection. Riverine forces were inconsequential except as needed periodically during

major conflicts such as the Civil War or Vietnam. In a military with limited resources, that is an understandable outcome.

“The Navy is not primarily about low-level raiding, piracy patrols, and riverine warfare, Jim Thomas, a former deputy assistant secretary of defense, told me. “If we delude ourselves into thinking that it is, we’re finished as a great power.” (Kaplan 2006) This thought permeates the Navy because of over a century of deep-water fleet operations.

The logic of that thought process is questionable, though, when the strategic importance of major river systems is considered.

There are 113 major river system basins in the world. They carry on average over 15% of the world’s commerce. To illustrate the strategic importance of this fact, approximately 80% of the world’s population (4.8 billion people) lives within 100 kilometers of the world’s rivers in the major rivers basins. Highly urbanized areas such as the east coast of the United States, Western Europe and Japan support a greater percentage of commerce while other industrialized areas support slightly less. (U.S. Navy 2006, 22)

The events of 9/11 changed the strategic outlook of the United States and caused the Department of the Navy to look differently at its strategic responsibilities. It determined that an expansion of its capabilities was required.

All who have gone down to the sea appreciate the various roles that sea power plays in our nation’s defense. Going back to Alfred Thayer Mahan’s day, that role was sea control—the ability to use the oceans to one’s advantage and to deny the use of them to opponents. Shortly after Mahan, the first rudimentary projection of power ashore by amphibious assault was added. During World War II, the projection of power ashore with aircraft and guns became another major mission of navies; this has since expanded to include guided missiles. With the advent of the nuclear age, navies also came to assure strategic nuclear retaliation as the cornerstone of nuclear deterrence. (Turner 1998, 97)

Admiral Turner goes on to say that aside from homeland defense, the other four traditional missions are today of lessening importance. Strategic deterrence is less an issue with the demise of the Soviet Union and the realization that advances in technology

has allowed for fewer missiles with greater lethality. This means less need for large numbers of ballistic submarines.

The Soviet Navy's sea-denial capabilities are gone and no one else can challenge Navy hegemony on the high seas and will not for the near future. The last opposed amphibious landing was in 1950 and few can imagine one in the next 20 years or so. Lastly, Air Force long-range bombers and tactical missiles have diminished the traditional advantage of the Navy's close range carrier based shore bombardment capability. (Turner 1998, 99)

Those missions, while seemingly diminished from previous times are still required today. There is, though, acceptance that a transformation of naval forces is required to support the new strategic requirements, which will be discussed in depth later in this chapter. "The challenge for the Navy and Marine Corps today is to remain capable of traditional naval missions while simultaneously enhancing our ability to conduct non-traditional missions in order to ensure that naval power and influence can be applied at and from the sea, across the littorals, and ashore, as required." (Naval Operations Concept, 2006, 12)

While speaking at the Naval War College in August, 2005, Admiral Michael Mullin, then Chief of Naval Operations laid the groundwork for that transformation within the Navy.

"We cannot sit out in the deep blue, waiting for the enemy to come to us. He will not. We must go to him. We need a green-water capability and a brown-water capability.....I want the ability to go close in and stay there. I believe our Navy is missing a great opportunity to influence events by not having a riverine force. We're going to have one." (Mullin 2007)

One of the results of that philosophy was the rapid formation of a riverine force to fulfill a requirement to operate on the Euphrates River in Iraq. That force, the squadrons of the Riverine Group are currently operating Iraq. The rapid development and

commitment of the riverine force during this conflict is consistent with the historical American riverine experience. A conflict occurs, the Navy reacts with a new riverine force.

At the conclusion of combat operations in Iraq, the Department of the Navy will remain busy. The Navy is currently updating its operating concept to support Naval Service strategic objectives in the future. It will certainly include traditional missions as well as a plan for operating non-traditionally; such as Global Fleet Station, a seabasing concept; but the Navy has not yet formally published the plan.

The problem arises when the Navy considers what to do with the riverine capability when the Iraq requirement concludes. The historical precedent is that the defense budget after the war will shrink in an effort to save money and the services will fight for relatively meager dollars. The Navy will be tempted, under that circumstance, to disband the riverine force because the expenditure for capital ships and traditional missions will overcome the smaller riverine organization with a recently concluded mission. Given the previously stated strategic importance of the riparian area, however, riverine forces will be required after the Iraq conflict concludes.

The Marine Corps has “developed a concept of employment with a supporting global force laydown and force reconstitution plan that best postures the Marine Corps to meet the current and projected steady state security environment” (U.S. Marine Corps 2008, 2). One aspect of the Long War Concept is an organization called the Security Cooperation Marine Air Ground Task Force (SCMAGTF). The SCMAGTF is a forward deployed Marine combined-arms team focused on partner building with friendly nations, a non-traditional mission fulfilling a strategic objective of the United States. The Marine

Corps will utilize the Security Cooperation MAGTF construct to conduct this non-traditional mission while maintaining its traditional full spectrum capability.

Therein lays the basis for this study. If riverine forces have a continuing, sustainable mission supporting the Department of the Navy's operations within the National Defense construct, Navy riverine forces should, over time, become institutionalized. This study focuses on the United States Navy and United States Marine Corps as the primary services to determine how the Department of the Navy can best develop and employ a riverine capability during the current conflict and in the future. The desired end state is an institutionally accepted and relevant riverine force providing a part of U.S. naval forward presence.

Thesis Organization

Five chapters comprise this study. The remainder of this chapter introduces the research question, limitations of the study, and riverine operations from a historical perspective. It also discusses the emerging security environment and the national strategy which addresses it. These concepts serve as the background for determining how a riverine force supports the national strategy. The second chapter reviews available literature on riverine history, doctrine, research and current discussions on the riverine requirement. The third chapter explains the research methodology used to convert the analysis into recommendations and conclusions. The fourth chapter is an analysis of the information and the fifth chapter which will provide recommendations and conclusions.

Primary Research Question

The Quadrennial Defense Review of 2006 mandates the implementation of a riverine capability. This study addresses the question of how to institutionalize a riverine force relevant to today and to the future.

Secondary Research Questions

This thesis will also examine some secondary topics that are important aspects of the primary research question. Specifically, it will consider whether or not the current U.S. Navy program is satisfactory for current and future requirements. It also will look at whether or not there are anticipated employment opportunities in which planners expect a significant military presence both now and in the future. It will look at the opportunities that are available to meet sustained operational needs, to prevent program atrophy or collapse. It will consider whether there is utility for land component utilization of a riverine force, to ensure its continued relevancy. Finally, it will examine how a riverine capability can best support U.S. strategic interests.

Limitations

The research data used on this topic was both classified and unclassified. While some historical information on riverine operations remains classified, most is from open sources. Current operations are primarily classified, however the day-to-day operations of the current Iraq riverine operations are but one aspect of U.S. riverine experience and the tactical developments in theatre are not the focus of this writing. The study itself is a compilation of unclassified materiel for the purpose of widest dissemination.

The United States Coast Guard, while a vital maritime component command, is

under the Department of Homeland Security. The “National Fleet: A Joint Navy/Coast Guard Policy Statement” describes the role of the Coast Guard in naval operations.

The Coast Guard’s contribution will be statutory authorities, multi-mission cutters, boats, aircraft, and C4ISR as well as law enforcement and environmental response teams designed for the full spectrum of Coast Guard missions, including maritime security operations, crisis response, and filling the requirements for general-purpose warships mandated by Combatant Commander theater plans. The Coast Guard will also provide Port Security Units and personnel to support the Naval Coastal Warfare mission area. (National Fleet: A Joint Navy/Coast Guard Policy Statement 2002)

While active in small craft operation, in particular with regard to law enforcement operations within the national littoral area of influence, it will not typically deploy within the Land Component Commander’s battle space in a theatre of operations or deploy for sustained overseas Security Cooperation operations ashore. This analysis does not consider the Coast Guard a conventional force option.

Special Operations Command (SOCOM) has a limited waterborne capability and is obligated to Foreign Internal Defense (FID) and security cooperation. Special Forces conduct operations near or supported by riverine forces; however, they will not be the focus of this study. Many smaller country national navies include riverine craft, so their classification is conventional. As a result, this paper will focus on the conventional use of riverine forces rather than special operations configurations.

Historical Perspective

The U.S. Navy has conducted [riverine] operations, including combat, since its earliest days. No one mission set or force construct has characterized riverine experience. On the contrary, its record has encompassed the entire gamut of riverine missions and tasks-river assault, protection of lines of communication, security operations, river crossings, operations other than war, theater security cooperation, and homeland defense. (Benbow, Ensimer, Swartz, Savitz, & Stimpson, 2006, 11)

The following section will use historical references to demonstrate the repeated requirements for a riverine capability by the United States. Examples from the Revolutionary War, Seminole Wars, and Civil War demonstrate that riverine operations have been prevalent throughout United States military operational history. This paper discusses examples of the riverine experiences in Vietnam through Iraq with more depth because those experiences have greater influence on riverine operations today. A common aspect of each era is the lack of institutional longevity of an American riverine force because after the conflict was resolved, the riverine force disbanded.

Revolutionary War

Riverine operations are not new for the United States. America's conducted operations on the rivers during the War of Independence. "Operations on American and Canadian rivers were conducted by a hodgepodge of local Continental Navy, Continental Army, French Navy and state navy forces. They included unsuccessful riverine invasions of Canada; defense of the Delaware River and Philadelphia; and movements of General George Washington's army down the Chesapeake to Yorktown." (Benbow, Ensimer, Swartz, Savitz, & Stimpson, 2006, 85) Riverine forces were established when a plan called for them, and were manned by regular soldiers. There was barely a navy at the

beginning and definitely no specialized riverine force. While riverine operations varied in success, they were an integral part of operations.

Seminole War

The Navy, Marines, and Army conducted riverine operations during the Seminole War between 1817 and 1842. Due to the thick vegetation and significant waterways in Florida, the United States armed forces used boats to move throughout the area and conduct operations against the Indians. These were the first joint operations for the U.S. military conducting riverine operations. As in the Revolution, riverine operations were sometimes successful and sometimes not, but boats were used extensively for transporting troops and equipment inland as well as direct combat operations. At the conclusion of the Second Seminole War, riverine capability diminished because there was no need for it. (Dunnavent 2003, 33)

Civil War

During the first months of the Civil War, the only river on most Northerners' minds was the Potomac. One strong thrust across it, so the general thinking went, and the war would be won. Union General-in-Chief Winfield Scott, however, realized that the conflict would be long and bloody, and to win, the North would have to capture and control the Mississippi River. His Anaconda Plan envisioned seizing the Mississippi, blockading the Southern coastline, and holding the line of the Ohio River. Although Scott's plan was never officially adopted, Union riverine operations in the West proved a key to victory. (Tucker 2006, 17)

Grant's movement south to Vicksburg on the Mississippi River was a joint operation of Army and Navy with constant use of riverine craft of varying types and sizes to provide transport of troops and supplies, provide fire support, and defeat the Confederate Navy in the area. The U.S. Navy conducted riverine operations from New Orleans north to Vicksburg as well, to open the Mississippi River to Union use and

secure it from the Confederacy. The Union conducted large-scale riverine operations on virtually all of the main rivers of the western theatre of the Civil War. These operations were typically joint Army and Navy operations with ground forces aboard to support the boats with operations on the shore to ensure safe passage.

An example of this was the Red River expedition in the early spring of 1864. “General N.P. Banks was conducting operations in Texas to discourage Napoleon III from pursuing his Mexican operations and in order to open northern Louisiana for sugar and cotton trade.” (Murdock 1992, 1) The significance of this operation is the requirement for mutual support required in riverine operations for both the boats and troops on the ground. General Banks was defeated in a land battle after he left the fire support of Porter’s fleet behind and moved inland on poor roads. Banks retreated because he could not maintain the army by that overland march through an area with very little water or sustenance, as well as absence of overwhelming superiority of naval gunfire provided by the forty boats on the river. When he returned to the riverine fleet, insurgents and conventional Confederates had mauled it because the fleet did not have the ground troops available to put ashore to clear and protect the boats on the water. “Enemy marksmen were gathering on both hostile banks of the river, adding to the discomfort by sniping at the flotilla. Small-arms fire, though deadly enough, was only part of the danger; for presently, emboldened by the absence of the infantry escort now on the march with Banks, they brought up batteries of horse artillery and opened fire from masked positions” (Foote, *The Civil War: A Narrative- Red River to Chattahoochee* 1974, 60). The Army and Navy components of the Red River Expedition trained and operated together. They were successful with coordinated ground and

waterborne operations. The key point is that when the ground or riverine force encountered the enemy in the absence of the other, they were unsuccessful. Mutual support between ground and riverine forces is as important today as it was during the Civil War.

At the war's conclusion, the operational requirement for a riverine force no longer existed, so the riverine force disbanded because there was no expectation of further use. The Navy scrapped the craft, returned them to civilian use, or allowed them to rot. The soldiers and sailors who conducted the operations returned to civilian life and the capacity to operate on inland waterways was lost again.

Vietnam

“The Vietnam War, while fought more than twenty years ago, is still a valuable source of data. The U.S. and allied brown water forces consisted of thousands of boats and craft and were committed to the conflict for long periods of time.” (Denman III 1996, 19) Vietnam provided the greatest historical example of the need for a United States riverine capability. It marks the U.S. Navy's high water mark concerning doctrine, organization, training, materiel, leadership, personnel, and facilities with respect to riverine operations. This section will review the Vietnam riverine experience in that sequence as a precursor to the format of analysis in following chapters.

American participation in Vietnam was advisory in 1961 and the Vietnamese needed assistance forming a viable navy from the boats left by the French. A recommendation was made to President Kennedy that “The U.S. government will assist the GVN [Government of Vietnam] in effecting surveillance and control over the coastal waters and inland waterways, furnishing such advisors, operating personnel and small

craft as may be necessary for quick and effective operations” (Cutler 1988, 20). Navy personnel advised the Vietnamese Navy and over time began to operate with them in combat operations. ”The most economical and direct route of supply for Viet Cong forces was by sea to points on the long, lightly guarded coast. The major points of entry were the tip of the Cau Mau Peninsula, the swamps of Kien Hoa Province in the northern part of the Mekong Delta.” (Westmoreland 1968, 88) As a result, Military Assistance Command, Vietnam (MACV), the unified command, tasked the U.S. Navy with advising the Vietnamese Navy and conducting its own operations in theatre (Cutler 1988, 20).

Interestingly, the U.S. advisors began advising with no training or standing doctrine in riverine operations. The United States had little riverine doctrine at the start of Vietnam. The Navy studied the French Vietnam experience for an example of current possibilities. The French were successful conducting riverine operations using their *Dinassauts*, a riverine craft (Baker and Dickson 1967, 66). The new riverine units quickly learned tactics, techniques, and procedures (TTPs) derived from experience on the rivers. Riverine operators and staff compiled and modified the information several times into doctrine that exists, today.

A particular new aspect of riverine doctrine that became ingrained in the U.S. riverine operators was integration of aviation in riverine operations.

“During Vietnam, helicopters and fixed wing aircraft supported riverine operations and helicopters actually integrated into riverine units. The nature of riverine operations necessitates integrating the operations of ground forces, naval units, and supporting air forces. The highest degree of coordination and cooperation between these forces is mandatory. Their operations are interdependent and must be considered as a single, tactical entity.” (Baker and Dickson 1967, 67)

The Navy emphasizes the integration of riverine forces and aviation in its current riverine doctrine. That emphasis derives from the riverine Vietnam experience.

Doctrine and TTP's are useless without an organization to conduct operations. The Navy organizations during the Vietnam War were the Group and Squadron, equivalent to the Regiment and Battalion. Each squadron was broken into Divisions. The organization was large, including shore and sea basing, maintenance, motor transportation, and aviation. While those organizations were the basis of the units, many hybrid organizations formed depending on the location of and requirements of a particular operation.

Operations on the river only, without regard for the adjacent land were ineffective, so the Mobile Riverine Force (MRF) was developed. The Army and Navy formed a task force to conduct joint operations with the Navy in later years. The joint force conducted brigade size operations using all aviation support from each of the services. The organization for joint operations was complicated and started with great confusion. The Navy sailed LST's and other support craft to the mouths of Vietnamese rivers and established Mobile Riverine Bases (MRB) where the riverine unit lived with the army. Initially, command and control was difficult to determine within the joint organization because both the Navy commander and the Army commander had separate direct chains of command to the MACV commander, General Westmoreland (Spangler 1995, 51). This, obviously, caused conflict and subsequently changed to a single commander, solving the unity of command issue. Depending on the mission of the units, either the Army or the Navy commander would be the Task Force commander. This issue is relevant to this study because Navy doctrine currently emphasizes a chain-of-command through the Maritime Component Commander, even during operations inland.

This paper will study this issue further in the analysis; however, history is a reminder that joint operators must solve unity of command issues for mission success.

Just as it had no doctrine or organization when it started riverine operations in Vietnam, the Navy had no training syllabus or plan, either. They quickly read and executed the old French training plans and started operating. They learned how to operate tactically by trial and error. After the riverine operators recorded their actions and practical application learned from experienced, they transferred this knowledge into the doctrine they would use for the duration of the war. In 1967, the Navy established Naval Inshore Operations Training Center (NIOTC) in Alameda, California to instruct new riverine crews and pass on lessons learned. Fortunately, the current riverine force has a basis for a training syllabus based on the Vietnam experience and continued development by the Coast Guard, Navy, and Marine Corps. A training program at inception minimizes riverine crew risk experienced by the Vietnam riverine operators.

Another issue with the early Navy riverine force was maintenance. The Navy has an extensive maintenance capability; however, they did not initially correlate with the equipment used in the riverine environment. The skills of repairing a steel-hulled craft with a prop are quite different from repairing small boat fiberglass and jet pump propulsion systems. Practical application and experimentation were required because of the rush to field the equipment, to learn how to maintain the various craft. Experience solved these skill shortfalls. Later, training prior to arrival in Vietnam incorporated the solved the maintenance shortcomings.

The United States expanded its role in Vietnam to combat operations in the mid-1960 and the Navy quickly participated. Once operations were underway, “it was evident

that there would be a need for more and better shallow water patrol capabilities. The answer would come in the form of the Water Patrol Boat (WPB), which was an eighty-two foot Coast Guard cutter, and the U.S. Navy Patrol Craft, Fast (PCF), commonly referred to as ‘Swift Boats’” (McQuilkin 1997, 7). These small craft were the vanguard of a wide variety of boats and ships dedicated to the riverine mission. The Navy, Army, and Marine Corps all bought commercial off the shelf craft, used amphibious craft that were in the inventory, and designed boats varied in speed, size, armament and draft.

The Navy experimented with several new watercrafts, an example of which is the Patrol Air Cushion Vehicle (PACV). The PACV was a commercial air cushion craft that could float over the water with four feet of clearance if required and maintain seventy knots. It was capable of operating on the land or water. In 1965, the Navy bought an initial quantity of one hundred twenty of a new kind of riverine craft. The thirty-three foot boat, Patrol Boat, River (PBR) was a fiberglass hulled, waterjet propelled craft that could perform at twenty-five knots in extremely shallow water. The PBR had no ballistic protection so speed, maneuverability, and firepower from its twin .50 caliber machine guns and other weapons was critical for survival.

The Navy additionally tested and used support, command and control, recovery, and numerous specifically designed or modified boats to accomplish a wide variety of missions during the Vietnam War. For heavy firepower, it built Monitors, slow moving, deeper draft, heavily armed craft with extensive ballistic protection. They experimented with and used barges as artillery fire support platforms, as well.

In addition to the rapid acquisition of craft, the entire supply system for riverine craft had to be developed. The lack of parts challenged riverine maintenance sailors in the early stages of operations.

“Another problem that had the potential for disaster was in the lack of adequate supply of spare parts and maintenance support for the PBR. In the rush to acquire adequate numbers of riverine craft, purchasing agents for the government sought to hold down program costs by buying spare parts in quantities to meet only minimum anticipated consumption rates, as projected by the manufacturer, and failed to incorporate an adequate fiberglass repair training syllabus for unit level maintenance personnel. Not surprisingly, the harsh environment quickly outstripped parts supplies and maintenance repair facility capabilities.” (Spangler 1995, 41)

Many of the same fielding issues exist today. The Navy is designing and procuring technologically advanced craft and equipment in a hurry to support combat operations. The inventory of parts takes time to build, so current riverine forces face the same issues as the riverine organizations in Vietnam.

Another difficulty experienced by the Navy in Vietnam similar and today is the issue of personnel. The Navy sourced thousands of sailors from all Military Occupational Specialties to outfit the riverine force from a personnel standpoint. Neither officers, nor enlisted were initially trained to perform the mission, so they learned on the job. Fortunately, the enlisted operators and maintainers had specific skills acquired in blue water jobs that easily converted to useful skills in the riverine force. They could work for the riverine force and then return to other fleet jobs with minimal transition issue.

Officers had a more difficult transition because leading units of small craft is significantly different than being a ship department head or commanding a deep water ship. There was no professional development system in place to maintain officer experience in the riverine force, so leadership at the small unit level had to be

continuously re-learned. Chapter 4 discusses the same issue present in the development of today's riverine force.

The last elements for discussion regarding the Vietnam experience are the varied facilities. The U.S. built the main Mobile Riverine Force base at My Tho by dredging. The base could hold an Army division headquarters, a brigade, a support unit, and a storage area for the brigade heavy equipment not used aboard the boats. In addition, the River Assault Group with over one hundred boats of various types, maintenance, supply facilities, and a headquarters operated from the base. The Navy built many other land facilities over the course of the war throughout the delta area.

The other main facilities development was Seabasing. The Navy brought LST's, barges, floating piers and other larger supply and maintenance ships to deeper, relatively protected areas and established large islands on which to conduct all aspects of riverine operations. These floating fortresses contained full maintenance facilities, berthing for both the ground combat element and Sailors and supplies to support the operations. Interestingly, the army typically commanded the floating bases because they had responsibility for security of the land surrounding the location. The new Navy concept of Global Fleet Station (GFS), discussed later, is similar to the seabasing concept of Vietnam.

The Vietnam War was the last time in U.S. history that a well-established, large riverine force was established and employed. After the withdrawal of U. S. Forces from Vietnam, the need for carriers and submarines to counter Soviet expansion in the blue water and the expectation that the U. S. would not fight a Vietnam style fight again

predicated the decommissioning of all American conventional riverine forces. As in previous U.S. military history, the conventional capability and capacity was lost.

Marine Corps Riverine Operations

As the Navy put its riverine capacity on the shelf, with the exception of Special Boat Units working with SEALs, the Navy and Marine Corps used the lessons learned during Vietnam to write *Naval Warfare Publication 3-06.M, Doctrine for Navy-Marine Corps Joint Riverine Operations*, last updated in 1987 and *Naval Warfare Publication 3-06.1, Riverine and Coastal Operations*.

In 1990, the Marine Corps and Navy commissioned the Worthington study, to determine the feasibility of building a riverine capability within the Department of the Navy.

The Worthington Study “responds to a Navy/Marine Corps Board tasking to develop operational and training concepts to field and exercise a riverine assault capability of up to a USMC battalion size Ground Combat Element (GCE) from within the existing force structure; to assess the associated impacts and costs; and to recommend a course of action to enhance riverine warfare capabilities” (Worthington 1990, 5).

The study recommended the Navy and Marine Corps continue their joint work on the subject and develop training and doctrine, then field a riverine capability from within their current force. The study recommended a battalion Marine air-ground task force (MAGTF) with Marine aviation and amphibious assault vehicles (AAV). The Navy was to provide the riverine boats, crews, maintenance, and etcetera.

The bill for this proposal was more than the Navy and Marine Corps thought feasible, given the increasingly constrained post-Cold War defense budgets and tumbling fleet force levels. The Navy's late Cold War battle force of almost 600 ships was already shedding 30 ships a year, and the Navy was hard pressed to form a riverine force with an uncertain future.

Throughout the 1990's, the Navy periodically revisited the Worthington Study. Each time, however, it ultimately backed away from re-embracing riverine operations, which it saw as a low-priority mission area in a climate of scarce defense dollars and numerous competing requirements. (Benbow, Ensimer, Swartz, Savitz, & Stimpson, 2006, 19)

In 1991, the Marine Corps organized and fielded Small Craft Company. The company, commanded by a Major, and staffed in similar vein to a battalion, had four different boats with unique capabilities and missions.

Designed to provide a riverine transport capability to Marine Expeditionary Units and Brigades, this force is expected to provide additional "depth, flexibility, and maneuverability to the littoral regions of the world, turning the rivers from obstacles into avenues of approach". Reminiscent of the Mobile Riverine Force during the Vietnam War, this company is equipped with a variety of boats designed to provide transportation and fire support to Marine infantry units. (Scheffer 2005, 62)

Marines from a variety of Military Occupational Specialties (MOS), with a primary focus on infantrymen, manned Small Craft Company. They trained to coxswain, maintain, crew, and fight the craft. Small Craft Company also had a Ground Combat Element (GCE) organic to the company. Its function was to conduct ground related operations while the boat crews provided cover with their onboard weapons. The Ground Combat Element, as an integrated part of the company, was able to train and become proficient at the tactics, techniques, and procedures employed in the Marine riverine organization. A ground combat element is an important construct of a riverine force because it allows for integrated training and an operational ability to influence the

riparian area. The Navy's new riverine force does not have an integrated Ground Combat element, which is a limitation to its value. Chapter 4 discusses this further.

The smallest of the craft was the Combat Rubber Raiding Craft (CRRC). It is small and quiet for stealth operations, such as reconnaissance inserts or raids.

The Rigid Raiding Craft (RRC) is a small, unarmed Boston Whaler type craft tasked with providing troop lift during riverine operations. The boat had no onboard weapons systems so relied on the passengers for defensive fires.

The River Assault Craft (RAC) is a 33 foot, water jet propelled, heavily armed boat based on the PRB from the Vietnam era. The mission of the craft was to provide fire support for riverine operations. It was capable of carrying troops, however, it was difficult to board and de-board.

Finally, toward the end of the Small Craft Company existence, Marine Corps fielded the Small Unit Riverine Craft (SURC). It is a 39 foot, water jet propelled craft with heavy weapons capable of carrying thirteen or more troops with a bow door for easy embarkation and debarkation.

Small Craft Company detached Marines and craft to serve with Marine Expeditionary Units (MEU) and supported exercises and training. The Marine Corps never fully funded or staffed Small Craft so it never became completely viable.

During the period that the Small Craft Company came into being, the Marine Corps was involved with Security Cooperation (SC) operations, training the Colombian Marine Corps in riverine operations to assist law enforcement with the counter drug programs prevalent in South America at the time. The Marines sent Mobile Training Teams (MTT) to Columbia and later to several other South American nations to instruct

their forces in riverine operations. “Marine MTT”s include U.S. Navy personnel-SEALs, corpsmen, and small-boat operations and maintenance specialists. Marine Corps instructors concentrate on ground tactics. USN instructors concentrate on boat operations and maintenance.” (Hayes, Kohout, Roth, & Wheatley, 1995, 130)

Iraq

Small Craft Company deployed to Iraq in March, 2004 and operated on the Euphrates River in the I Marine Expeditionary Unit (MEF) area of operations (AO). The company conducted a variety of operations, in particular, raids, river patrols; Visit, Board, Search and Seizure (VBSS), tactical re-supply, and point security of Iraqi infrastructure. The company participated in the Battle of Fallujah, hunting insurgents as they fled the city to the west. It also provided bridge overwatch and an alternative avenue of approach that was relatively free of Improvised Explosive Devices (IED). While conducting operations in Iraq, the first real riverine mission since its inception, the company learned it was to be de-commissioned.

“Just as the River Assault Squadrons, Coastal Squadrons and River Squadrons were disbanded following the Vietnam War and the remnants turned over to the Naval Reserve, the Small Craft Company will also be disbanded shortly after its return from Iraq. As identified in a message from the Commandant of the Marine Corps, the Trooplist for Fiscal Year 2005 includes the ‘elimination of the Small Craft Company’.” (Scheffer 2005, 68)

Although the Small Craft Company was gone, the requirement in Iraq remained. Marine leaders throughout Al Anbar wanted to use them. A particular need was at the Hadithah hydroelectric dam on the Euphrates River. A waterborne security element was required to keep insurgents from attempting to damage the dam. A Marine Reserve company from the Assault Amphibious Battalion was designated Dam Security Unit 1

(DSU) in 2005 and provided security at the Hadithah Dam. The MEF lobbied Headquarters, Marine Corps for permission to use the DSU for conventional riverine operations, but because the Navy was preparing to assume the point security mission over the next year or so, and the lack of training of the initial DSU unit, they stayed at the dam.

In early 2006, the second iteration of the DSU concept, DSU-2, continued to provide waterborne security of the Hadithah Dam but was given the additional mission of conducting riverine patrols with a detachment in Ramadi. The training of the reserve units provisionally established to conduct DSU operations improved and by the third iteration, DSU-3, the MEF obtained authorization to conduct full spectrum operations. DSU-3 conducted all of the missions performed by Small Craft Company on the Euphrates from Fallujah to the Syrian border. In addition, DSU-3 conducted census operations along the river and performed local national engagement. It conducted land operations within range of its organic weapons with an organic ground combat element (GCE). Most significantly, using Marine working dogs, engineers, and Explosive Ordnance Disposal (EOD) personnel attached to the company, DSU-3 was able to clear the islands from Hadithah to the Syrian border of multiple extensive caches of insurgent war fighting materiel. On March 23, 2006, DSU-3 conducted a turnover of authority with Riverine Squadron One (RIVRON) and the Marine Corps stewardship of the United States riverine capacity ended.

Present Stance

As discussed briefly in the introduction, a United States Navy riverine squadron is fulfilling the requirement as the riverine force in support of Iraqi Freedom, providing

point security at the Hadithah Dam and conducting riverine patrols over the length of the Euphrates River in Al Anbar Province.

Future Outlook

In “The Pentagon’s New Map: It Explains Why We’re Going to War and Why We’ll Keep Going to War”, Thomas Barnett describes the world as part of either the Functioning Core or the Non-integrated Gap, or Gap for short (T. P. Barnett 2003, 174). Networks, finance, media and collective security connect the states of the Core. The Gap areas are states and regions with repressive regimes, sickness, poverty and serves as the breeding ground for terrorism. “Seam” states surround the edge of the Gap. The U.S. and other Core governments operate in the Seam areas to restrain the bad of the Gap from inflicting damage to the Core as a whole.

It is along this seam that the Core will seek to suppress bad things coming out of the Gap. Which are some of these classic seam states? Mexico, Brazil, South Africa, Morocco, Algeria, Greece, Turkey, Pakistan, Thailand, Malaysia, the Philippines, and Indonesia come readily to mind. (T. P. Barnett 2003, 174)

The significance of the previously mentioned states for the purpose of this paper is that they all have many navigable waterways throughout their territory. This is just the fringe of the future threat. The effect of the increased demand for water will affect the location of people who need it, especially in Gap areas. It can be expected that population migration will occur as a matter of survival.

Competition for water, energy, good, services, and food to meet the need of growing populations will increase the potential for conflict. Demand for water is projected to double every 20 years. By 2014, 40 percent of the world's population will live in "water-stressed countries. By 2025, global energy demands are expected to increase by 40 percent, threatening supplies to poor and developing nations. (U.S. Army, 2008, 4)

The future is uncertain and unclear. The United States has no control over many of the previously stated factors and as such, a defensive posture is not advantageous. Subsequently, the expectation is that the U.S. military will maintain a forward presence even more dynamic and complex than today. The National Defense Strategy of 2005 prepares for this future. It states that in addition to traditional roles of defending the homeland against direct attack, freedom of movement through international waters and airspace, and projecting forces in distant hostile environments, the military will improve its proficiency against asymmetric threats and enhance its capacity to develop and improve relations with other countries through security cooperation initiatives. In this way, maintaining a presence forward, developing relationships and enhancing our friends' ability to support and secure their people, the United States can secure itself (U.S. Department of Defense 2006, 2).

"The security environment is characterized by a combination of traditional, irregular, catastrophic, and disruptive challenges." (Naval Operations Concept 2006)

The Defense Strategy of the United States observes that the United States is supreme in traditional war fighting, so the military must be prepared to counter a wider variety of challenges as well as traditional warfare. These challenges are traditional, irregular, catastrophic, and disruptive.

Traditional Challenges. These challenges are most often associated with states employing armies, navies, and air forces in long-established forms of military competition...As formidable as U.S. capabilities are against *traditional* opponents, we cannot ignore the challenges that such adversaries might present. Traditional challenges require us to maintain sufficient combat capability in key area of military competition.

Irregular Challenges. Increasingly sophisticated *irregular* methods —e.g., terrorism and insurgency—challenge U.S. security interests. Adversaries employing irregular methods aim to erode U.S. influence, patience, and political will. Irregular opponents often take a long-term approach, attempting to impose prohibitive human, materiel, financial, and political costs on the United States.

Catastrophic Challenges. In the face of American dominance in *traditional* forms of warfare, some hostile forces are seeking to acquire *catastrophic* capabilities, particularly weapons of mass destruction (WMD). Particularly troublesome is the nexus of transnational terrorists, proliferation, and problem states that possess or seek WMD, increasing the risk of WMD attack against the United States.

Disruptive Challenges. In rare instances, revolutionary technology and associated military innovation can fundamentally alter long-established concepts of warfare....Some *disruptive* breakthroughs, including advances in biotechnology, cyber-operations, space, or directed-energy weapons, could seriously endanger our security. (U.S. Department of Defense 2006, 3)

The United States strategy establishes strategic objectives to counter those threats. First, is to secure the United States from direct attack. Second is to secure strategic access and retain global freedom of action. The remaining objectives are to strengthen alliances and partnerships and establish favorable security conditions. The United States will seek to accomplish those objectives through more widely distributed forward forces that can assure allies and friends, dissuade potential adversaries, deter aggression and counter coercion regionally, yet possess the agility to rapidly re-position and merge with reinforcements deploying as part of a global response to crises. When necessary, that global response will include defeating adversaries (Naval Operations Concept 2006).

In the previous pages, this chapter has discussed the repeated requirement for a riverine force as a function of the United States military. It has discussed the current

riverine force, the future security climate, and how the United States military will operate. The remainder of this paper will explore the current riverine force and how to use it as an instrument of the United States strategic policy.

CHAPTER 2

REVIEW OF LITERATURE

The written doctrine, information and literature concerning riverine warfare are plentiful. There is a well-recorded history of riverine warfare and current riverine information is growing. The literature review provides information on why references were included in this study. The publications and documents reviewed in this chapter provide substantial or pivotal information for the purpose of this study. The remaining publications contained in the reference list provide background or substantiate the works reviewed herein. This chapter is broken into five sections for ease of referral. The sections are: historical publications; doctrinal publications; non-doctrinal publications; articles and official reports; studies and reports; and thesis.

Historical Publications

The importance of history to this study is to provide validation to the assumption that the United States has a requirement for a riverine force. History begets theory, theory begets doctrine. The Navy's historical experiences in riverine warfare, to some extent, influence its decisions today as it fields a riverine force.

David Munns describes *Brown Water Warfare: The US Navy in Riverine Warfare and the Emergence of a Tactical Doctrine, 1775-1970*:

R. Blake Dunnavent provides this first history of riverine warfare, cataloguing its induction, evolution, and significance. He has compiled material from the National Archives, Navy Operational Archives, Library of Congress, and private collections to tell of riverine conflicts and their outcomes. Dunnavent also analyzes tactical progress based on particular events, from the American Revolution to the Vietnam War, and their contributions to current U.S. naval operations....Little else has been published to document the important ways in which the United States has sought to secure domestic and international waterways. (Munns 2003)

There are many books on riverine warfare but this is the most comprehensive historical reference on the subject to date. The value to this paper is its depth of research covering the entirety of United States military riverine history. This work is important to the study of riverine warfare because of the high degree of research and analysis that the author used to write it. It is recognized as a highly reputable source on American riverine operations.

The Civil War: A Narrative, written by Shelby Foote is a nine-volume narrative of the Civil War. It discusses the strategic, operational and tactical levels of both the Union and Confederacy, on land and water. Within this comprehensive work are riverine operations. The work provides extensive review of riverine operations during the American Civil War, in particular several operations conducted in the Western Theater. The underlying theme that a military professional may interpret from Foote's work with regard to riverine operations is that ground and riverine forces need to integrate operations. Shelby Foote's narrative is valuable to this study because he is not a riverine expert. In spite of that, riverine operations permeate the writing, demonstrating the significance of the riverine operations in support of the Union army during the Civil War.

Brown Water, Black Berets by Thomas Cutler provide depth to understanding the Vietnam riverine experience. Cutler's book is a comprehensive account of the riverine experience from the initial advisory effort until the Navy turned over the final craft and

equipment to the Vietnamese and withdrew. *Brown Water, Black Berets* is well respected by Vietnam riverine veterans for its accuracy and earned the Alfred Thayer Mahan Award for Literary Achievement in 1998.

Doctrinal Publications

The two most important subjects of analysis in this thesis are doctrine and organization. The strategic documents discuss the reasons why the United States needs a riverine force. The operational doctrinal publications are the method the military uses to depict how they will train, organize and equip a force. The tactical level doctrine directs how a commander should employ that force. These documents are the basis of research for the study of riverine warfare.

This review sub-divides doctrinal publications into strategic, operational, and tactical publications. Each sub-division nests within the senior documents. For example, the *Naval Operating Concept* addresses guidance and tasks derived from the National Defense Strategy and National Military Strategy. Both of those documents develop their concepts by interpretation of the National Security Strategy.

Strategic

The National Security Strategy of the United States of America, March 2006 is the senior strategic document in the United States. It depicts the strategic aims and thoughts of the administration and provides direction for the departments of government to develop strategy.

The Department of Defense produces *The National Defense Strategy of the United States of America* (NDS) and the *Quadrennial Defense Review* to support the

National Security Strategy. These documents provide the services and combatant commanders' guidance and direction to formulate operational level plans.

The Quadrennial Defense Review (QDR) is the baseline document directing the Navy to develop a riverine capability. The specific direction of the QDR is concise and lacks specificity, which, in turn, provides the basis for this thesis.

National Military Strategy of the United States of America, 2004 is the Chairman of the Joint Chiefs of Staff equivalent of the NDS. It also provides guidance to the service chiefs and combatant commanders.

Operational

The *Naval Operating Concept* is

the latest in an evolutionary series that describes how the Navy-Marine Corps team will contribute to the defense of our nation. It supersedes the 2002 *Naval Operating Concept for Joint Operations*, refining and expanding upon that document as well as earlier papers like *From the Sea* and *Forward...From the Sea* (Naval Operations Concept 2006).

The document provides the Naval Services with a direction to implement plans and programs that support the strategic documents. It is important to this paper because riverine operations must support the concepts described herein.

Long War Concept: the Marine Corps Vision for Strategic Force Employment in Support of the Steady State Security Posture is the Marine Corps plan to fulfill its obligations within the *Naval Operating Concept*. The document is the centerpiece of this thesis proposal to integrate riverine forces into the Security Cooperation MAGTF that is unveiled within.

Multi-Service Concept for Irregular Warfare is a document produced by the Marine Corps and Special Operations Command (SOCOM).

The *Multi-Service Concept for Irregular Warfare* broadly describes how future US military forces will conduct irregular warfare in support of unified action on a regional or global scale against both state and non-state adversaries. It is meant as a guide for enhancing and improving US military irregular warfare capabilities and capacities. It also is meant as a guide toward closer integration of US military and US civilian agencies in meeting the varied challenges of irregular warfare. Finally, it will provide the basis for experimentation intended to influence subsequent concepts and capabilities development (Multi-Service Concept for Irregular Warfare. Version 2.0 2006).

This document is relevant to this thesis because it addresses the relationship between the Navy and Marine Corps conventional Security Cooperation efforts and the efforts of SOCOM. It is necessary to address this relationship within the context of the Marine Security Cooperation MAGTF construct.

“A Cooperative Strategy for 21st Century Seapower” is a document written jointly by the United States Navy, Marine Corps and Coast Guard to depict the intent of the Naval Services in response to the emerging threat. The *Naval Operations Concept* supplants this document; however, is relevant to demonstrate the inter-service cooperation necessary to enact the proposal of this paper.

Tactical

The U.S. Navy Riverine Group Concept of Operations, published 28 September, 2006 is the centerpiece document of the Navy’s return to the riverine business. The perspectives conveyed in this document are the driving elements of the capability present in the Iraqi theater, today. As a result, this document is critical to interpret the United States Navy’s concept of a riverine capability, its force requirement and structure, and its doctrinal use.

NTTP 3-06.1 Riverine Operations Final Draft is the Navy Tactics, Techniques and Procedures Manual for Riverine operations. The final publication will be the lead

doctrinal document for Naval Riverine operations, so its importance in this research is essential for providing insight into the actual specifics of command and control; operational and tactical applications; and potential issues.

NTTP 3-10.1 Naval Coastal Warfare Operations is the guiding doctrinal document for an aspect of the Navy that is closely associated with the riverine concept. Coastal Warfare is not riverine warfare, but the two have similarities. Coastal Warfare is combat in the littorals. This document is important to this paper because it amplifies the similarities between riverine and coastal operations. This becomes important in determining the Navy's true commitment to a long term riverine force, or is the similarity of equipment and TTP's enough to easily disband the riverine forces, but use them in the Naval Coastal Warfare mode.

NTTP 3-20.6.29M/COMDTINST M3120.18/MCWP 3-35.8 Tactical Boat Operations, July 2007 is the joint tactical level doctrine for boat operations including riverine craft for the United States Navy, Coast Guard, and Marine Corps. The tactical level information available is not the primary interest of this research, however, the document has pertinent value due to the connection between the tactical application of boats in the riverine environment and the operational dimensions of command and control and missions discussed within this thesis.

NWP 3-06M Doctrine for Navy/Marine Corps Joint Riverine Operations, 1987; FMFM 8-4A Operations in Riverine Areas, 1971; and NSW/USMC Riverine Operations Handbook XL-00080-01-93 are outdated doctrinal manuals valuable to this paper because they provide a baseline to determine changes in doctrine and definitions from previous and current doctrine.

Non-Doctrinal Publications

Articles

Thomas P.M. Barnett, in “The Pentagon’s New Map: It Explains Why We’re Going to War and Why We’ll Keep Going to War” presents a Defense Department recognized train of thought about how and why global instability will influence strategic requirements for the United States and other industrialized countries. Understanding the theory is important to determine how to employ a riverine capacity in order to support U.S. strategy.

Robert Kaplan’s, “America’s Elegant Decline”, and Roger Barnett’s, “Naval Power for a New American Century” address the Navy’s institutional position in American defense strategy. They provide a point of view outside of the Navy establishment about the role of the Navy. These articles provide this paper insight into the struggle to determine whether the Navy should retain only her Cold War role or diversify based on the changing global situation.

The article, “Riverine Peacekeeping: Potential Lessons from the American Naval Experience in Vietnam” provides observations from the Vietnam riverine experience to assist U.S. forces operating in South America during the drug war in Colombia and surrounding countries. It, and “Counterdrug Assistance: The Number One Priority”, which discusses interagency work, including riverine operations in support of the South American drug war are pertinent to this study for a historical reference to that period. Additionally, Security Cooperation operations in South America in the future will share similarities with the observations made in both articles.

Several articles written as the Cold War finished and the War on Terrorism started

discuss the possible post-Cold War relativity of the U.S. Navy. These articles, such as “US Navy Operations in Littoral Waters”, reflect the Navy’s concern that it could lose relevancy by not adapting to the evolving operational environment. This concern caused some to consider re-visiting missions like riverine operations, which support operations inland. For the purpose of this study, these articles have importance because those who felt that the Navy should consider resurrecting the riverine concept meant them to invoke thought and debate. They used historical perspectives and new ideas to attempt to change the Navy’s operations. These ideas are important to study as possible options for how to legitimize a riverine force.

Official Publications and Reports

Joint Pub 1-02 DOD Dictionary of Military and Associated Terms provides a standard for terms in this paper.

Several Chairman of the Joint Chiefs of Staff directives provide the framework for defining the DOTMLPF analysis tool used in this thesis. *CJCSI 3180.01 Joint Requirements Oversight Council (JROC) Programmatic Processes for Joint Experimentation and Joint Resource Change Recommendations*, *CJCSI 3170.01F Joint Capabilities Integration and Development System*, and *CJCSM 3170.01C Operation of the Joint Capabilities Integration and Development System* are the documents used to establish the standards with which to evaluate riverine operations by accepted Department of Defense analytical tools.

This paper uses *A Statement on the Posture of the United States Army 2008* to show that the changing world dynamic is not simply an issue for the Naval Service. It demonstrates the transformation required by all services to adapt to the changing world.

The Worthington Study is the result of an attempt by the Navy and Marine Corps to re-energize a riverine capacity after the Vietnam War. Conducted in 1990, it provided the groundwork for the Marine Corps fielding of Small Craft Company later in the decade. The study is important to this study because it demonstrates the Naval Services awareness of the need for a riverine capability even during periods without major conflict. It is also the document used by the Marine Corps when it formed the Small Craft Company. Many of the perspectives outlined in the Worthington Study are applicable, today.

“CRS Report for Congress, Navy Role in the Global War on Terrorism (GWOT) Background and Issues for Congress” is research conducted by a specialist in national defense who works for Congress. His task in this brief is to raise oversight issues for Congress to consider regarding the Navy’s role in the Global War on Terror. Of particular interest to this study are concerns that the Navy is not serious about the riverine mission. This is a central theme in this thesis’ analysis of leadership. The second point is concern whether or not the Navy is worried about relevance or trying to secure more money from the GWOT budget rather than making substantive operational concept changes. This, too, is important for this thesis in evaluating whether the Navy can institutionalize a riverine force.

Studies and Reports

The Center for Naval Analysis (CNA) conducts studies at the request of the Navy. They have a large staff of competent researchers and analysts, many former military. The CNA study “Renewal of Navy’s Riverine Capability: A Preliminary Examination of Past, Current and Future Capabilities” is a comprehensive study of the Navy’s riverine

experience. It takes an initial look at the complexity of fielding a riverine capacity and attempts to define roles and missions for a riverine force. The Riverine Concept of Operations reflects many of the views contained in the study.

“Future Naval Cooperation with Latin America: Program Descriptions and Assessment” discusses Navy programs for Security Cooperation in South America. Riverine Security Operations in South America have been and part of the overall Southern Command (SOUTHCOM) operational security cooperation plan. This is important for this study because of the opportunity to legitimize the RIVRON by conducting riverine security cooperation in South America in the future.

Theses

Theses submitted over the last twenty years reflect the concern of naval officers over the role of the Navy in U.S. strategic policy. These papers provide a forum to stir debate within the Navy about the need and value of a riverine capacity.

“Does the U.S. Navy Need to Enlarge Her Coastal and Riverine Force Capabilities to Effectively Meet the Joint, Combined and Unilateral Missions of Today and Tomorrow?”, by Lieutenant Commander Denman and “What Lessons Can be Drawn from U.S. Riverine Operations During the Vietnam War as the Navy Moves Into the Twenty-First Century?” by Lieutenant Commander Spangler discuss the need for a riverine capacity. Both conclude that the Navy is not prepared, in terms of riverine force size, to conduct full-scale riverine operations. They both recommend growth of the riverine force, but doubt it will occur.

Lieutenant Commander Scheffer wrote “The Rise and Fall of the Brown Water Navy: Changes in United States Navy Riverine Capabilities from the Vietnam War to

Operation Iraqi Freedom.” His thesis is important to this paper because it corroborates the historical research discussed above. His research is current, as it discusses operations in Iraq.

“Naval Special Warfare’s Contribution to Global Joint Operations in Support of Sea Power 21, the United States Navy’s Vision for the 21st Century” is pertinent from the standpoint that it discusses the Special Operations capability provided to the Riverine mission and the unique options within that community to support it.

These reviewed documents with support from the remainder of the reference list provide a substantive body of research materiel for this study. The remainder of this paper will use the information provided by these documents to analyze the Navy’s riverine capacity.

CHAPTER 3

RESEARCH METHOD

The methodology in this study is based on comparative analysis of the Naval Service capabilities. To develop data in a manner consistent with the normal military capability analysis, this paper uses the standard analysis of doctrine, organization, training, materiel, leadership, personnel, and facilities, or DOTMLPF.

DOTMLPF

The Joint Requirements Oversight Council (JROC) is the organization within the Department of Defense that oversees the development and procurement of equipment across the entire Department of Defense. “The JROC primarily advises the Chairman regarding requirements, programs and budgets via the programmatic process and the requirements generation system.” (Chairman of the Joint Chiefs of Staff 2002, 2) The JROC uses a system called Joint Capabilities Integration and Development System (JCIDS) to procure items.

The JCIDS process was created to support the statutory requirements of the JROC to validate and prioritize joint warfighting requirements. JCIDS is also a key supporting process for DOD acquisition and PPBE (Planning, programming, Budgeting, and Execution) processes. The primary objective of the JCIDS process is to ensure the joint warfighter receives the capabilities required to successfully execute the missions assigned to them. DOTMLPF is an analytical tool used in the Joint Capabilities Integration and Development System (JCIDS). (Chairman of the Joint Chiefs of Staff 2007, 2)

JCIDS is a highly developed capabilities based procurement process. It is relevant to mention here because the DOTMLPF is an analytical tool used within the JCIDS process designed to ensure a synchronized war fighting capability. JCIDS and DOTMLPF are the standard development and procurement process and analytical tools

used throughout the Department of Defense. This breakdown of a capability provides a standard framework for assessment, within which the Joint Requirements Oversight Council, individual service component or combatant command can determine the most qualified systems and organizations to provide a particular capability. The analysis will attempt to consider the problems, issues, technological, management, and implementation conditions and opportunities associated with the Naval Service in relation to riverine operations.

The most important of the DOTMLPF sub-sections for the purpose of this paper are Doctrine and Organization. The remaining sub-sections will amplify information.

Subject of Analysis

The specific subjects of analysis are the U.S. Navy Riverine Squadrons (RIVRON) and the Security Cooperation Marine Air Ground Task Force (MAGTF).

Doctrine

Doctrine considers institutional doctrinal publications; tactics, techniques and procedures; operating procedures; regulations; checklists; and policy that governs or guides the way an institution operates.

Organization

This section considers the organizations as they exist within an institution to conduct a particular operation. It considers what the organization should look and determines a configuration that can successfully conduct missions. This section considers all aspects of the organizational structure, to include size, specific billets, staff, and supporting elements.

Training

The training section considers all aspects and methods of delivering the required training to all organizational elements that will conduct or support the mission.

Materiel

Systems, platforms, weapons and supporting equipment are examples of materiel designed and purchased in the Joint Capabilities Integration and Development System. In addition to mission essential items, materiel may include support items of other DOTMLPF components such as training or facilities equipment.

Leadership

Leadership, in DOTMLPF, is how the organizational leadership advances, supports or influences the implementation as well as manages a program. It also evaluates the ability of institutional leadership to manage a program. This study will address the institutional characteristics which will inhibit or expedite implementation of the capability.

Personnel

The personnel consideration evaluates the capacity to provide qualified personnel to the capability in order to perform it and support it. Additionally, it evaluates the requirements of the mission or technology and determines the knowledge, abilities and skills required for successful implementation.

Facilities

The facilities consideration evaluates the buildings, and physical areas, such as docks, ramps, lifts needed to conduct operations. In addition, the required engineer support and supplies are also included in this aspect.

Final Analysis

The basis for a conclusion and recommendation results from consideration of each of the Navy and Marine Corps aspects of DOTMLPF. The recommendation will provide a method of institutionalizing and employing riverine capacity using DOTMLPF methodology.

CHAPTER 4

ANALYSIS OF AVAILABLE EVIDENCE

Analytical Introduction

The Navy and Marine Corps share a common history and tradition. They each have unique complementary service capabilities. It is difficult to imagine an amphibious assault without the Navy and Marine Corps team or Corpsmen supporting Marine operations ashore. Both Navy and Marine aircraft serve together on aircraft carriers. The past, present, and future of the Navy and Marine Corps are inextricably linked.

At a meeting before the Senate Armed Services Committee to discuss the Department of the Navy's 2009 budget request, Secretary of the Navy Donald Winter explained the operational requirements of the Naval Service.

Worldwide presence, credible deterrence and dissuasion, projection of power from naval platforms anywhere on the globe, and the ability to prevail at sea are the critical, most fundamental elements of the Navy and Marine Corps strategic posture; these are our indispensable contributions to the joint warfighting capability of the Nation. (Winter, 2008, 2)

The historical missions described below provide a baseline for the strategic responsibilities of each of the services in order to determine the value of a sustainable riverine capacity in support of the stated missions.

Forward Naval Presence. The Navy-Marine Corps team will deploy to, or station in, focused areas overseas to demonstrate national resolve, strengthen alliances, deter, and dissuade potential adversaries, and enhance our ability to respond quickly to crises.

Crisis Response. The Navy and Marine Corps team will continue to provide a timely, worldwide response to unforeseen and rapidly unfolding natural disasters and manmade crises. Our forward forces will be first on scene in an emerging crisis and will provide key enabling capabilities for other government and private organizations and the introduction of follow-on forces and resources.

Expeditionary Power Projection. Enabled by sea basing, the Navy- Marine Corps team provides the joint commander with global reach and access in order to take the fight to the enemy and help win our nation's wars. Amphibious operations, strike warfare, information operations and naval special warfare deliver flexible, scalable and sustainable offensive capabilities at a time and place of our choosing.

Sea Control. Control of the sea remains critical to our ability to operate in future environments. U.S. Naval forces will maintain the capability to destroy enemy naval forces, suppress enemy sea commerce, protect vital sea-lanes, and establish maritime superiority in support of a joint or combined operations.

Deterrence. U.S. Naval forces will deter and dissuade potential adversaries from acts of aggression by imposing the credible risk of conventional, unconventional, and nuclear consequences (Naval Operations Concept 2006, 14)

The Operational Concept added new missions to accomplish the naval strategy which planners should consider when determining the value of a riverine capacity. The following is a list of new missions as stated in the Naval Operations Concept:

- (1) Maritime Security Operations (MSO) keep the oceans and seas free for movement and commerce. Examples of MSO threats are piracy, terrorism, environmental destruction, and illegal immigration. (Naval Operations Concept 2006 14)
- (2) Security Cooperation (SC) is the building of relationships between the Navy and Marine Corps and the services of other nation states. This can include combined training, or Foreign Internal Defense (FID) operations. (Naval Operations Concept 2006, 18)
- (3) Civil-Military Operations are using the military either afloat or ashore to assist a government and its people with civil projects that will improve their welfare. Examples of these are health care, basic public works construction, and well drilling. (Naval Operations Concept 2006, 19)
- (4) Counter-insurgency operations are those characterized by U.S. forces assisting

a government as they attempt to eliminate an internal threat.

- (5) Counter-terrorism is the finding, capturing or eliminating terrorists, training pipelines, and networks.
- (6) Counter-proliferation is the prevention of the spread of weapons of mass destruction (WMD) to others, both nation state and non-state actors who do not yet have them. (Naval Operations Concept 2006, 21)
- (7) Air and Missile Defense is the countering of any flying objects directed at the United States or U.S. interests.
- (8) Information operations are the use of information to influence and shape our enemies, friends, and the environment to our advantage. (Naval Operations Concept 2006, 18-22)

The Naval Service will accomplish these missions using Guiding Naval Principles; agility, coordinated global influence, deployability and employability, interoperability, persistent presence, adaptive force packaging, precision, speed and unpredictability to our enemies and reliability for our friends.

There are methods stated to accomplish the Guiding Naval Principles presented below:

- (1) Globally Networked Operations are the employment of communications networks that allow for sharing of information to forces scattered across the globe.
- (2) Distributed Operation is decentralization of units conducting operations over wide expanses, sometimes in support of other forces with the capacity for rapid consolidation if a contingency requires.

- (3) Adaptive force packaging is the application of the right force in the right place at the right time to solve an operational problem.
- (4) Aggregate, Disaggregate, Re-aggregate means being able to disburse and then consolidate at need, then disburse again to continue the original mission.
- (5) Cross Fleet Standardization means developing common tactics, techniques, and procedures (TTP) throughout the operating force to ensure aggregation is seamless.
- (6) Task Focused Training is training to a specific operational requirement.
- (7) Cultural Awareness understands the complexities of another nation through study.
- (8) Sea Basing means providing a base without infringing upon the sovereignty of a host nation or nation state in crisis.
- (9) Building Partner Capacity is working with our friends to assist in the development of competent forces that can capably defend themselves, serve as regional peacekeeping forces, or contribute to U.S. led coalitions. (Naval Operations Concept 2006, 31)

The riverine capacity of the United States nests within this operational framework to fulfill aspects of the naval strategic mission in order to be relevant and gain institutional acceptance.

The United States Navy has a long historical record of performance in the area of riverine operations. They reference this historical position as they attempt to re-establish a capability. The reality, however, is “the Navy of today has inherited almost nothing in the way of specialized riverine systems or riverine-experienced personnel from its

forebears. It is essentially starting from zero.” (Benbow, Ensminger, Swartz, Savitz, Stimpson, 2006, 37). Regardless, the Department of Defense tasked the Navy with providing a riverine capability. The Riverine Group and Riverine Squadrons are the Navy’s response. The Navy’s initial plan and implementation of the riverine capacity developed rapidly due to the Iraq War requirement. The Navy tasked Riverine Squadron One to conduct operations in Iraq less than one year after establishment while the second and third squadrons trained in preparation for follow on operations. It accomplished this rapid implementation in spite of the circumstances. Much additional work and thought remains, to institutionalize the Navy’s riverine capacity.

Just as the Navy is transforming because of the new requirements of the National Defense Strategy and the Naval Operating Concept, the Marine Corps is developing new programs to adapt, as well. The Marine Corps focus is on an overall plan to posture the force after the drawdown of forces in support of Iraqi Freedom. The “Long War Concept” (LWC) document is the first Marine Corps strategy to address its role in the Global War on Terror. The LWC “provides a vision for Marine force employment that seeks to provide a persistent, forward deployed Marine presence, in keeping with previously identified COCOM requirements, across key regions in the world while still providing the Nation with the ability to concentrate and deploy Marine forces to fight and win our Nation’s battles across the full spectrum of conflict” (Long War Concept Brief Unclass Final, 2008, 1). One aspect of this plan, ultimately relevant to the riverine force, is the Security Cooperation Marine Air Ground Task Force (SCMAGTF). The following section will evaluate the Navy’s riverine forces and the Marine Corps Security Cooperation MAGTF’s abilities to support the naval strategic plan.

Doctrine

Navy

The Navy incorporates its operational vision within the Naval Operating Concept. A service specific Navy Operating Concept is forthcoming. The Naval Operating Concept, the Department of the Navy document, however, discusses what the Navy will do to support the United States strategic objectives. “Specifically, this concept calls for more widely distributed forces to provide increased forward presence, security cooperation with an expanding set of international partners, preemption of non-traditional threats, and global response to crises in regions around the world where access might be difficult” (Naval Operations Concept 2006, 34).

Riverine operations satisfy three of the aforementioned concepts: increased forward presence, security cooperation, and global response to crisis. The Navy could forward deploy riverine forces to conduct Security Cooperation missions in virtually any combatant command area of responsibility (AOR). Combatant Commanders could employ riverine forces in response to a crisis such as a hurricane or typhoon in order to provide humanitarian aid to areas where vehicles cannot access.

The “U.S. Navy Riverine Group Concept of Operations” is the operational employment document for riverine forces.

The Riverine Group CONOPS {Concept of Operations} provides an initial framework for establishing and developing the Navy’s Riverine Group. It outlines the characteristics and operating concept for riverine capability, and captures the emerging ability of the riverine forces to provide Navy Component Commanders and Joint Force Maritime Component Commanders with forces tailored for the mission and environment (U.S. Navy 2006, Promulgation Letter)

Notably absent in the promulgation letter is a reference to operations under any other than Navy command. This issue is a recurring theme throughout the Navy’s

emerging riverine doctrine. The reason it is an issue is that most rivers flow outside of the typical Joint Force Maritime Component Commander (JFMCC) battlespace. The recurring hesitation on the part of the Navy to accept that most riverine operations will not normally be under the control of the JFMCC could potentially cause command and control issues. The larger consideration is that this resistance does not conform to the Guiding Naval Principle of *Interoperability* as specified in the Navy Operational Concept.

According to the CONOP, the Riverine Group is filling a security gap for the Navy. Riverine operations are conducted to facilitate Maritime Security Operations, establish and maintain control of rivers and waterways for military and civil purposes, deny the use of rivers and waterways to hostile forces and with augmentation, locate and destroy hostile forces, bases, and supplies within the riparian area” (U.S. Navy 2006, 9)

The CONOP also states that Theater Security Cooperation “missions define the primary employment of the riverine group. These missions consist of small detachment and may be short in duration. Other types of support missions would consist of seminars, exchanges, and exercises and may include combined operations with other riverine forces” (U.S. Navy 2006, 12). The CONOP supports the Naval Operating Concept with Theater Security Cooperation operations; however, the intent of Security Cooperation within the strategic directives is to develop long-standing, continuous relationships through operations. These would require a greater commitment than “short in duration” missions. The Naval Operating Concept defines Unpredictability for Our Adversaries and Reliability for Our Friends as “Our operations must deny our adversaries the ability to exploit familiar deployment and employment patterns; yet assure our friends of our

continued persistent commitment to our common interests.” (Naval Operations Concept 2006, 24) The key element of this Guiding Naval Principle that the CONOP incorrectly interprets is *persistent* commitment.

There is currently a gap in operational level riverine doctrine within the Navy. That gap is a lack of specific operational plans for the riverine force beyond the Iraq requirement. It is understandable because the riverine force is new to the Navy and is focused on current operations in Iraq. This shortfall presents an opportunity to influence and develop a riverine operational concept that is credible and sustainable in support of the Naval Operations Concept.

The Navy has viable tactical doctrine. The Navy, Marine Corps, and Coast Guard are rewriting it and the Navy is validating the concepts in Iraq combat operations. The strength of the doctrine is the small unit and individual craft maneuver Tactics, Techniques and Procedures (TTP). The Navy and Coast Guard specialty is the operation of craft and the doctrine reflects that strength.

The Navy, Coast Guard and Marine Corps co-wrote the publication *NTTP 3-20.6.29M/COMDTINST M3120.18/MCWP 3-35.8 Tactical Boat Operations*. “This multi-Service publication consolidates tactical boat TTP from the United States Navy, United States Marine Corps, and USCG. The TTP provide detailed guidance on mission planning, tactical boat handling, patrol operations, asset protection, contact prosecution, communications, and the Department of Defense and USCG use of force continuum.” (U.S. Navy, U.S. Coast Guard, U.S. Marine Corps 2007, 19) Navy and Coast Guard influence of craft handling, Coast Guard specific influence of waterborne law enforcement operations, and Marine Corps influence with ground tactical expertise is

evident throughout the document. There is a strong initial focus in the tactical planning process for the boat unit commander that mirrors and references the Marine Corps Planning Process as well as the basics of planning taught at the Basic School.

“The purpose of *Navy Tactics, Techniques, and Procedures (NTTP 3-06.1, Riverine Operations)*, is to set forth tactics, techniques, and procedures (TTP) for small unit leaders and commanders to plan and conduct riverine operations that encompass fire support, waterborne movement, combat operations, and surveillance, interdiction, and security operations. Although the tactical doctrine applies to operations conducted across the spectrum, this publication is for operations short of war conducted in a riverine environment” (U.S Navy 2007 , 2). NTTP 3-06 is the baseline tactical riverine employment manual for U.S. riverine forces.

According to NTTP 3-06, Navy riverine forces conduct operations in a Level II threat environment. Joint Publication (JP) 1-02 DOD Dictionary of Military and Associated Terms defines a Level II Threat as “small tactical units, unconventional warfare forces, guerrillas, may include significant stand-off weapons threats” (Joint Publication 1-02 DOD Dictionary of Military and Associated Terms As amended through 04 March 2008). This is important to note because it limits riverine forces by definition from major combat operations (MCO).

NTTP 3-06 is detailed in its explanation of tactical riverine missions. In fact, there are many references to the riverine missions in most of the tactical level doctrine. It is a current focus as the Navy attempts to determine the depth of investment committed to the RIVGRU.

NTTP 3-06 specifies riverine missions as maritime security, riverine patrolling

and interdiction, riverine maritime interception, riverine theater security operations, and riverine combat support. The tactical missions assigned in the doctrine support the traditional naval missions of *Forward Naval Presence*, *Crisis Response*, and *Expeditionary Power Projection*, as well as new NOC missions of *counter-insurgency* and *counter-terrorism*.

The riverine Mission Essential Task List (METL) is included as Table 1 in Appendix B. The key consideration of the METL is its focus on waterborne operations with far less consideration for the riparian area. The only two ground related tasks in the METL are Conduct Convoys and a single entry for Conduct Tactical Insertion and Extraction. Conducting convoys is not directly related to the mission of riverine operations, except as it relates to travel to a launch or recovery site. There are no METL's relating to directing fires ashore, conducting supporting fires for forces ashore, or anything else related to operating in synchronization with forces on the shoreline. Additionally, there is no METL relating to riverine force operations ashore. That means that the Navy riverine forces are ill prepared to search islands, pursue insurgents ashore, or collect Battle Damage Assessment (BDA) ashore if it has no augmentation from ground forces. *Interoperability* is missing from this element of the tactical doctrine.

In another instance, NTTP 3-06 discusses the Guiding Naval Principle of *Interoperability* at the tactical level. It states; "Riverine forces undertake operations in combined and joint environments that may complement ground operations. Riverine forces must possess the required training and equipment necessary to operate independently or in conjunction with naval, land, and air forces at the tactical level" (U.S Navy 2007, 1-2). There is a disconnect between doctrine and training if the previous

statement is true, as discussed further in this analysis; however, it should be noted here that extensive training is required for leaders to learn the complexities of operating in conjunction with ground operations and Joint operations. That training is currently unavailable to the extent needed for competency on the part of riverine small unit leaders. In addition to the *interoperability* issue, the NOC method of *Task Focused Training* is absent in this aspect of the doctrine.

New riverine doctrine takes into consideration operational requirements for planning similar to that which the Army's FM 3-0 has developed, with emphasis on full spectrum operations to include stability operations. NTTP 3-20.6.29M Chapter 3 addresses considerations for operations involving a host nation, such as controlling and assisting with control of local population, reception and forward movement from a Point of Entry, provision of host nation medical care and health service considerations. It mentions intelligence sharing considerations with a host nation, and support of host nation security. "Many HN's provide extensive support for security-related activities. Some examples of HN security support that may be coordinated are civilian guard, civilian labor services, civilian police and military units (U.S. Navy, U.S. Coast Guard, U.S. Marine Corps 2007, 3.5.4). NTTP 3-20 support the NOC with *Civil/Military and Security Cooperation Operations*, as well as the traditional role of *Forward Naval Presence*.

NTTP 3-20 does not focus only on riverine operations, however. The intent of this portion of 3-20 is *Cross fleet Standardization* between the Navy's riverine element, Marine Expeditionary Security Force and the Coast Guard. The Navy and Coast Guard emphasize their *interoperability* with riverine operations and tactical boat operations of

the law enforcement, port facility and littoral operations. The craft are shallow draft and many of the METL missions are similar to port security operations. One possible reason to blend the two separate tactical doctrines is that if the Navy decides to get out of the riverine business, there is a method to integrate them into the Marine Expeditionary Security Force- the old Coastal Warfare units who conduct port security and littoral operations.

There are some additional issues in the tactical level doctrine as well. Current riverine doctrine does not clearly define the riverine environment, while obsolete doctrine does. Naval Warfare Publication (NWP) 13A/Fleet Marine Force Manual 7-5, Doctrine for Navy/Marine Corps Joint Riverine Operations defines the riverine area as: “inland, coastal, or delta area comprising both land and water, characterized by limited land lines of communication, with extensive water surface and/or inland waterways that provide natural routes for surface transportation and communications” (NWP 13A, p. 29).

While clear in the obsolete document above, it is left undefined in NTTP 3.06.1 Riverine Operations.

Riverine forces conduct riverine operations, specifically concentrating on MSO by denying an enemy the use of navigable waterways and preventing an enemy from interfering with maritime or land operations. The riverine maritime security planned operating environment (POE) includes lakes, rivers, harbors, and deltas in both littoral and inland regions to counter current and emergent threats within those regions (NTTP 3.06.1 Riverine Operations 1-1).

3.06.1 again resists *interoperability* as it states, “The operational focal point for riverine forces is to conduct MSO and TSC within the JFMCC AO” (U.S Navy 2007).

Lack of definition is both an advantage and disadvantage. The ambiguity provides flexibility to the commander on the ground to determine where he can best employ his riverine forces, rather than a doctrinal limitation. One way of looking at the lack of clear

definition is that it provides flexibility for the commander to choose where he should commit the riverine force. The negative way to look at it is that the level of clarity is intentionally ambiguous in order to maximize control by the Maritime Component Commander.

Marine Corps

The Marine Corps Long War Concept is a Planning construct nested within Office of the Secretary of Defense (OSD) guidance that directs the services to adapt themselves to address more of the irregular threats that the future will present (U.S. Department of Defense 2006, 11). “From this guidance, the Navy and Marine Corps developed a plan that seeks to capitalize on the inherent strengths of the Navy-Marine Corps team to operate in the littoral regions of the world in a manner that enables the persistent presence of the U.S. forces combined with the ability to project influence into areas that had previously been marginalized.” (Long War Concept Brief Unclass Final 2008, 6)

The QDR directed acceptance of risk in traditional challenges to address the irregular threat. (U.S. Department of Defense 2006, 19) The Long War Concept is the Marine Corps initiative to support that aspect of the QDR. (Figure 1, p. 87)

The Marine Corps will maintain its traditional method of larger MAGTF’s for forceable entry capability and major combat operations (MCO), will maintain the Marine Expeditionary Unit (MEU) construct for contingency operations, and will re-energize the Unit Deployment Plan (UDP) for a Forward Presence. In accordance with the QDR, the Marine Corps participated in the resurrection of the joint Military Advisory and Assistance Group (MAAG). The MAAG is a link between host nations, the ambassador, and the Department of Defense. The Marine Corps Training and Advisor Group

(MCTAG) will interface with the MAAG and advise the host nation forces in building partner capacity. (Long War Concept Brief Unclass Final, 2008) The executor of that interaction will be the Security Cooperation MAGTF. The endstate is that the Marine Corps will provide sustained full spectrum capability in accordance with the NOS as a nested aspect of the National Defense Strategy and Quadrennial Defense Review.

A primary mission of SOCOM is Foreign Internal Defense (FID). FID is one aspect of security cooperation that the Marine Corps will perform while conducting SCMAGTF operations. To ensure that there was not an overlap of capability and infighting between SOCOM and the Marine Corps, they co-wrote the Multi-Service Concept for Irregular Warfare.

This concept describes how the US Armed Forces working with US Government civilian agencies can conduct offensive IW and counter irregular threats, and how these two activities must be blended into a fluid whole through campaign design.” (Multi-Service Concept for Irregular Warfare. Version 2.0 2006, 5)

The purpose is to establish a protocol for joint integration in the security cooperation construct. The endstate agreement between SOCOM and the Marine Corps is that SOCOM will conduct a FID evaluation of a country and then apportion conventional FID to the SCMAGTF and retain the training of host nation special operations units.

One SCMAGTF will be assigned to each of SOUTHCOM, AFRICOM, and CENTCOM. The MEU’s will maintain their traditional areas, and the UDP program will provide two battalions to each of Okinawa, and Guam. (Figure 2, p. 88)

Specific doctrine for the Long War Concept does not yet exist. Unlike riverine capability, this is a pilot program with no historical reference and has not yet been attempted, so tactics, techniques and procedures must be developed.

Organization

Navy

The parent command of the riverine unit is Naval Expeditionary Combat Command (NECC). The NECC was established on January 13, 2006. The Department of the Navy states that Naval Expeditionary Combat Command will:

help meet the irregular challenges of the 21st Century. It will serve as a functional command to organize, man, train, and equip forces that operate in an expeditionary environment. It will be the single advocate for all Navy Expeditionary Forces to include Explosive Ordnance Disposal (EOD), Naval Construction Force (NCF), Maritime Expeditionary Security Force (MESF, formerly Navy Coastal Warfare) and Navy Expeditionary Logistics Support Group (NAVELSG), and key new capabilities: Expeditionary Training Command (ETC), Expeditionary Combat Readiness Center CRS-5 (ECRC), Maritime Civil Affairs Group (MCAG) and Riverine Force. (U.S. Department of the Navy, 2008, 2-1)

It was specifically stated that there was no intent to establish a naval infantry, since the Marine Corps serves that capacity for the United States. However, it provides an opportunity for Navy ground forces, under one command, to focus on Theatre Security Cooperation (TSC).

The key feature of the NECC is the variety of units under its command that can mutually support each other. The Riverine Group (RIVGRU) and its squadrons have access to the assets of NECC, in particular Seabees, Explosive Ordnance Disposal (EOD), Unmanned Aerial Vehicles (UAV), Unmanned Surface Vehicles (USV), Unmanned Underwater Vehicles (UUV), intelligence exploitation cells, Civil Affairs (CA) and linguists. These augments can be combat multipliers when conducting riverine operations. The NECC provides “one stop shopping” for Naval ground force support within one chain of command. It supports the Naval Operations Concept by

consolidating ground related naval activities in an effort of interdependence and *Cross Fleet Standardization*. It also provides the option of *Adaptive Force Packaging*.

One other aspect of NECC may assist the riverine element with institutionalization. The Expeditionary Training Command (ETC) provides customized training to other nations in support of Partner Building Capacity (PBC).

ETC delivers maritime expeditionary core capability training and instruction in the areas of naval construction, maritime civil affairs, maritime expeditionary security, riverine, expeditionary logistics, explosive ordnance disposal, mobile diving and salvage, naval coastal warfare, and skill sets external to NECC. The goal is to complement efforts of U.S. forces across the full spectrum of military operations. Teams of ETC personnel with the subject matter expertise will train foreign audiences at a basic to intermediate level. (Navel Expeditionary Combat Command n.d.)

The RIVGRU could conduct Theater Security Cooperation within the construct of the ETC and establish long-term relationships with the riverine forces of host nations. Long term relationships would demand consistent contact with the host nation and would support the defense department engagement strategy.

A Commodore, a Navy Captain commands the three squadron Riverine Group. The Riverine Group has overall administrative responsibility for the three squadrons and is responsible for training, materiel, facilities, and personnel. In the case of a significant riverine mission, with more than one riverine squadron operating in the same area, the Riverine Group would serve as the command element (Figure 3, P. 88). The Riverine Group is still growing and the focus of operations in Iraq is the Squadron, so the study of the Riverine Group organization is minimal for the purpose of this thesis. The key factor to consider, though, is the size of the RIVGRU. With three squadrons of twelve craft each, the RIVGRU has extremely limited combat insert and extract capability.

Optimally, the Riverine Group will be able to support battalion-size Army and Marine operations. This pales in comparison to the level of output in Vietnam. The group's ability to dominate a combat operation or break the will of an insurgency is limited, at best....This undermines the Navy's assertion that it wants a viable brown-water Navy. (Hancock, 2008, 49)

In addition to the lack of troop lift capacity, the Center for Naval Analysis conducted a study to determine how many riverine craft would be required to conduct operations in support of ground operations in “Gap” countries. It determined that

When NECC fully fields its riverine capability in FY-10, 16 Gap countries can be met with the planned capability set, based on number of boats. Twenty-two Gap countries will be outside of projected capabilities—notably Burma, Colombia, Iraq, North Korea, Nigeria, Venezuela, and Vietnam. (Benbow, Ensimer, Swartz, Savitz, & Stimpson, 2006, 77)

The bottom line is that the RIVGRU is too small for the near future to conduct significant sized riverine operations of any kind. The only way the force will be evaluated and increased is if the riverine force gains acceptance as a relevant force. In terms of impact in support of the Naval Operations Concept, the RIVGRU has *Deployability and Employability* issues as described above.

There are currently three riverine squadrons in the Riverine Group. Each squadron has a Reserve Component augmentation unit that will be formed in the near future. Each riverine squadron consists of sixteen riverine craft of varying types and two hundred twenty-four personnel.

The riverine squadron has a robust staff that is comparable to an infantry battalion staff from the ground component (Figure 4). The Navy correctly assessed that the riverine mission would need extensive staffing since it will operate with heavy coordination between itself and adjacent ground units as well as conduct independent operations. The following paragraphs provide an idea of the nature and complexity of the

staff of a riverine squadron.

The intelligence section (N2) is capable of operating within the Joint Force Command/Joint Force Maritime Component Command/Joint Inter-Agency Task Force intelligence architecture to conduct Intelligence Preparation of the Battlefield (IPB), anti-terrorism and force protections assessment, threat and environment analysis, targeting, and intelligence information management.

The operations section (N3) is led by a Lieutenant Commander, with two Navy Lieutenants and three enlisted personnel. Additionally, Training (N5), while separate, works hand in hand with the operations section. The riverine squadrons are utilizing the Command Post of the Future (CPOF) system to integrate with Marine Corps and Army units in the field.

The logistics section (N4) contains five subsections: Materiel, Boat Maintenance, Vehicle Maintenance, Combat Service, and Security, both convoy and camp.

The communications section (N6) is the equivalent in personnel to a battalion level communications shop. The difference is the equipment that is organic to the riverine squadron. Since the Navy is normally used to communicating from long ranges with a variety of methods, the capability within the Navy to communicate is robust, to say the least. Riverine Squadron 1, when it arrived in theatre to replace DSU-3, had more capability in terms of communication than the Marine battalion headquarters. One piece of equipment within the riverine squadron that enhances communication is the Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T). This unit is a digital and analog Extremely High Frequency (EHF) unit that provides enough bandwidth and power to utilize CPOF and all other digital and analog communication systems concurrently.

For the size of the unit, it is advanced in capacity to support *Globally Networked Operations*.

The riverine divisions currently consist of two sections of two PRB's each, a medical component and a boarding team (Figure 5). Each craft is dual crewed for continuous operations. When the full complement of boats is fielded for the riverine squadrons, they will expand to four divisions, configured identically with personnel but with three assault craft and one PRB per division. The squadron level is the controlling agency for Command and Control craft.

A Navy Lieutenant with a Lieutenant, Junior Grade (LTJG) serving as Executive Officer, commands each division. A Lead Chief Petty Officer (LCPO) and two Corpsmen assist them. This structure is essentially a platoon size element in the ground component commanded by a Second Lieutenant, so there is ample leadership and planning experience based in the command of each division.

A senior Boatswains Mate serving as boat captain, another BM serving as coxswain, driving the boat, a Gunner's Mate manning one of the primary heavy weapon systems, an engineman, and a hull technician, comprise each crew. The engineman who maintains and services the engines and systems as well as the hull technician who works in concert with the EN to ensure the craft is operating and maintains its hull integrity also serve as the gunners for the other two heavy weapon systems.

The boarding team consists of a Navy Lieutenant and seven sailors. Their role is to conduct local ground security of forward operating bases as well as to conduct boarding of vessels in the operating area that might need a search. The boarding team is not to be confused with the integrated ground combat element (GCE) of the Small Craft

Company.

This small organization within the riverine squadron's divisions is not trained or sizeable enough to conduct operations ashore except in extremis. They receive training to secure small areas for searches of watercraft. This is a significant limitation for squadron self generated operations because it has no organic ground combat capability. A trained infantry capability to augment the riverine force is required to conduct island cache sweeps, local national engagement, or any operations ashore.

The riverine organization is extremely limited in its ability to support *Adaptive Force Packaging*. As a result, it can perform only limited *Distributed Operations*.

Marine Corps

The SCMAGTF is formed around an infantry battalion with an air combat element (ACE) and combat logistics element (CLE). Specific regiments will be responsible as force providers for specifically assigned SCMAGTF's and will rotate its battalions on a sustained basis. That means that with a battalion will conduct operations as the SCMAGTF for six months, will return to home station for six months of rest and refit, and then will have six months of preparatory training for a follow on return to the same SCMAGTF. In this way, sustained relationships with regiments, battalions and host nations in the SCMAGTF operating area will be established. The regimental focus on a particular area will allow its members to gain a depth of understanding of the culture and language of that area.

The SCMAGTF will deploy to a Forward Operating Base (FOB), then will be broken down into smaller *distributed* elements as small as a squad and deploy to Cooperative Security Locations (CSL) as needed in the theater to conduct missions.

Some of these missions would be continuous and some would be episodic. (Long War Concept Brief Unclass Final 2008, 13) (Figure 6, p. 90) A company may deploy to the GFS ship in the AOR to support Navy security cooperation operations while one of the company's platoons is ashore working with another country on another security cooperation mission.

The command element will move as required to be in the best place to command the SCMAGTF. Sometimes, the commander may need to personally influence a host nation with his established relationships and relative seniority to solve an issue. The command element will have the opportunity to move about the AOR as required to support the forces deployed in every clime and place.

In the event of a contingency requiring a significant Marine force, the SCMAGTF would quickly consolidate forces by organic aircraft, trucks, or ships as well as commercial aircraft. Once consolidated, the force could move to the contingency area and join forces already arrived. Once the contingency concluded, the SCMAGTF could return to the FOB and disburse, again, to continue the Security Cooperation mission.

The nature of the SCMAGTF is that it will operate in "Gap" areas. As discussed in the introduction, most of the populations of "Gap" areas live in close proximity to water. Additionally, infrastructure capable of supporting Lines of Communication (LOC) such as roads are seldom improved and may even be non-existent. With that in mind, the Marine Corps does not have a riverine capability to facilitate engagement and open alternate LOCs.

The SCMAGTF organization supports the Naval Operating Concept by providing *persistent presence* through *adaptive force packaging* and efficient *deployability* and

employability. It can disburse for operations and consolidate in the event of a *contingency*, providing *aggregation/disaggregation* capacity.

Training

Navy

Establishing a training program for a new concept is a difficult process. The Navy was fortunate to have the assistance of the Coast Guard and Marine Corps to assist in their respective areas of expertise in establishing the initial basic training.

The Riverine Group Concept of Operations outlined its initial vision for training as follows:

Navy and Marine Corps training organizations will conduct the initial training for the group. The key to success in training is to provide the riverine Sailors the skill to operate as “soldiers.” The Group will find it operating near the riverbanks or near shores and must be able to act, operate and talk with ground forces. After the first Squadrons receive training and are able to provide feedback to the Type Commander, training may be revised to respond to the changing needs of the mission and environment. It is expected the Navy alone will, eventually, conduct that basic training, with integrated naval or joint exercises conducted as intermediate and advanced training. As discussed above, training must allow personnel tempos and operational tempos to remain within current Navy policy. (U.S. Navy, 2006, 47)

The original training occurred very similarly to the RIVGRU CONOP. Primary crew training for the RIVGRU is at the Special Missions Training Center (SMTTC). The RIVGRU Sailors trained to operate and maintain the riverine craft at the SMTTC.

The Coast Guard Special Missions Training Center (SMTC) is located aboard Marine Corps Base Camp Lejeune, North Carolina. SMTC's primary mission is to provide relevant and credible Training, Doctrine, and Testing/Evaluation in support of mission requirements of the U.S. Coast Guard, U.S. Navy and U.S. Marine Corps operational forces.

Coast Guard formal courses are: Basic Tactical Operations (BTOC), Advanced Tactical Operations (ATOC), Tactical Coxswain, Tactical Boat Crew Member, Port Security Unit (PSU) Basic Skills, PSU Tailored Unit Training Availability-Field Exercise Problem (TUTA-FEP), Non-Compliant Vessel Pursuit (NCVP), Advanced Small Arms Instructor (ASAI) [FY 08] and Crew-Served Weapon MK-19 40MM Machine Gun Operations/Maintenance.

Marine Corps formal courses are: Advanced (Level-II) Crewman, Small Boat Unit Leader, Small Craft Mechanic (SCMC), Combat Rubber Reconnaissance Craft Repair (CRRC), Basic (Level-I) Coxswain, and Boat Interoperability.

Navy formal courses are: Riverine Crewman Course (RCC), Riverine Patrol Officer (RPO), Riverine Force Small Craft Maritime Interdiction Operations Team Trainer (RFSC-MIO), and Riverine Combat Skills Course (RCS).

SMTC is also charged with operational test and evaluation, supporting the development of tactical doctrine, and is a designated Center of Excellence (COE) for Non-Lethal Technologies and Fast Boats. (United States Coast Guard n.d.)

The Marine Corps taught ground combat training to the first riverine squadron.

The entire squadron, including officers, attended the School of Infantry course in Camp Lejeune, North Carolina. Marine infantrymen attend this school after graduation from boot camp. It is a basic course in infantry skills. That was the depth of training for the first squadron in combat skills before deployment to Iraq. Currently, the NECC is conducting a modified, twenty-six day version of the course, named the Expeditionary Combat Skills Course at a Naval Station in Gulfport, Mississippi. "The Expeditionary Combat Skills (ECS) Course provides a standardization of training across the NECC force, resulting in better trained warfighters who are ready for combatant commander's tasking," said Rear. Adm. Don Bullard, commander, NECC. "ECS is the foundation of the expeditionary warfighters' training continuum." (U.S. Navy 2007)

While the intention is good, the course provides little more than familiarization and survival skills. The course is not designed to develop a professional skill set for operations on the ground.

Training is even more suspect for officers. They conduct training in riverine mission planning at the RIVGRU and RIVRON. Officers gain a basic understanding of ground terminology and graphic control measures but have very limited practical knowledge until it is gained through application.

Training shortfalls and officer personnel issues are closely linked. Because no closed loop professional development construct is established, officers cannot have the degree of professional education needed to have an enduring impact. In other words, no riverine experience base will be maintained long term in the riverine leadership. A closed-loop system would improve training because after officers gained experience from operating in the riverine environment, they could transfer that knowledge to juniors starting in the riverine force at a school designed for that purpose. The Navy can demonstrate its commitment to the institutionalization of the riverine force by establishing a riverine training school in the same way the Vietnam era Sailors established the Naval Inshore Operations Training Center.

There is, however, a training opportunity that may enhance the institutionalization of the riverine force. It is a Navy concept not directly related to riverine operations but is relevant, nonetheless. The U.S. Navy Language Skills, Regional Expertise and Cultural Awareness Strategy (LREC) is a program designed to ensure:

A total force that appreciates and respects cultural differences, and recognizes the risks and consequences of inappropriate, even if unintended, behavior in foreign interactions. [Develops] a cadre of career language professionals (i.e., FAOs and cryptologic language analysts) whose primary functions require foreign language skill and regional expertise. [It develops] other language-skilled Sailors and civilians with sufficient proficiency to interact with foreign nationals at the working level. (Chief of Naval Operations, January 2008, 7)

This program, if embraced by the NECC and RIVGRU provides a professional development plan to enhance the riverine squadrons' ability to successfully conduct Theater Security Cooperation. The reality is that while the Navy riverine program has shortfalls, the professional nature of the U.S. Navy is still superior to that of most "Gap" area militaries. A culturally aware riverine force able to communicate and establish positive relationships with foreign navies will enhance the relevance and legitimacy of the riverine force.

Marine Corps

During the twelve months of rest, refit, the SCMAGTF assigned units will focus on full spectrum training. Traditional challenge training will maintain the skill sets required of all Marines to conduct *Forcible Entry*. The force will have to train for the future SCMAGTF deployment as well. There will be *task-focused training* relative to the specific Security Cooperation missions expected, significant *cultural awareness*, and language training.

One task specified in the QDR is to "modify tactical and operational plans to improve language and regional training prior to deployments and develop country and language familiarization packages and operationally-focused language instruction modules for deploying forces" (U.S Department of Defense, 2006, 79). The Marine Corps developed and instituted an extensive plan as is described below:

At the lowest level, Center for Advanced Operational Cultural Learning (CAOCL) and Security Cooperation Education Training Center (SCETC) training supports building linguistic and cultural awareness in the AOR. This training is aimed at providing a basic understanding of cultural, linguistic, political structures amongst the junior Marines who will deploy into the specific AO. Career Marines (Lts and NCOs) assigned micro-regions through the Career Marine Regional Studies program (assigned at TBS and NCO school) are assigned to units that source the SC MAGTF to a level that facilitates greater understanding amongst the junior leaders who will be key to operating in the AO. The assignment of these career Marines with regions relevant to the SC MAGTF will facilitate the maintenance of highly perishable language skills and the performance of training to reinforce the programs provided by the CAOCL. At the highest level, select billets in the tables of organization of units that source the SC MAGTF are coded to facilitate the assignment of FAO and RAO who will provide the deepest level of regional understanding among the senior leaders. (Long War Concept Brief Unclass Final 2008, 12)

Materiel

Navy

The Navy has inherited the remnants of the Marine Corps' Small Craft Company craft, weapons and support equipment and has begun to develop robust additional equipment and craft.

“The Navy has a functioning center of expertise in the design and acquisition of riverine craft: the CCD of the NAVSEASYS COM's Carderock Division, located in Norfolk, Virginia. For decades, CCD has supported the Navy, the other armed services, the Special Operations command and other DOD and non-DOD organizations. It has been the agent for development and acquisition of the USMC SURC [Small Unit Riverine Craft].” (Benbow, Ensimer, Swartz, Savitz, Stimpson, 37)

The Marine Corps SURC is the first of the Navy Riverine craft to be fielded and operationally employed. The Marine Corps purchased a total of twenty craft and used ten for training and testing in the United States and ten for operational employment. The Marine Corps transferred the craft to the Navy between 2006 and 2007. The Navy re-

named the craft the Riverine Patrol Boat or RPB. The purpose of the RPB is to conduct inland waterway riverine operations.

Safe Boat International, in Port Orchard, Washington builds the PRB. Figure 7 (p. 91) is a photo of a PRB. Table 1 (p. 94) provides technical information for the Riverine Patrol Boat. The craft perform well as designed; however, additional armor has been installed and the weight increase reduced speed. “The Small Unit Riverine Craft lacks a stabilized gun mount, making it difficult to effectively lay down fields of fire. Furthermore, rapid wear on the boats prohibited continuous operations during the first squadron’s maiden deployment. (Hancock, 2008, 44)

In addition to the PRB, the Navy has contracted for two other type craft. United States Marine, Inc of Gulfport, Mississippi builds the Riverine Assault Boat (RAB). The mission of this craft is to deny the use of rivers and waterways to waterborne and immediate shore sited hostile forces by barrier and interdiction operations. With augmentation of ground and air forces, riverine forces can locate and destroy hostile forces within a riparian area. (Figure 8, p. 95) Table 2 provides Riverine Assault Boat technical information.

The RAB has the same power plant and propulsion system used in the PRB, which allows for common parts block and maintainer qualifications.

Safe Boat International also builds the Riverine Command Boat (RCB) for the purpose of mobile liaison, communications, and command and control. It is the largest craft to be fielded at this time and has the most protection of any craft, as well. It can carry twenty-one passengers, which is a significant upgrade in payload. (Figure 9, p. 92) Riverine Command Boat technical information is available in Table 3 (p. 76).

There are currently operational maintenance issues resultant from operations in the shallow water common to many Gap area rivers. The propulsion systems on all of the craft are Waterjets, which tend to ingest rocks and small objects from shallow bottoms, resulting in clogged cooling systems that overheat engines and rapid wear of the impellers that provide the propulsion. Engineering will be required to improve impeller performance in the long term.

The craft currently in use in Iraq and craft planned for fielding are quality riverine craft; however, there is a trend in boat design toward deeper draft and less capacity to easily board and de-bark troops. Understandably, rivers vary in depth and many waterways in the areas where the riverine force are employed have both deep and shallow waters; however, trend in craft toward increased draft remains a concern. The reason for this concern is that when the riverine force is required to operate in shallow water, accessibility of deeper draft craft would be diminished capability. This is the case today, in Iraq. The waters of the Euphrates are marginal, at best; for riverine operations and the PRB is the only craft that has a shallow draft able to work the river. The other craft are limited to Lake Qadisiyah, formed by the Hadithah dam.

The combination of shallow water and old underwater stone drainage and irrigation networks heighten the probability of hull grounding or punctures. See Figure 10 (p. 93) for a pictorial example of the results of Euphrates River caused hull punctures.

In the future, as water becomes more precious in Africa and other areas of the world, damming to contain water is a possibility, which could decrease water levels below any dam. Additionally, smaller, shallow rivers that branch from major water thoroughfares may allow access only to shallow draft craft. Since the command and

control (C2) craft is twice the draft of the primary operating platform, the PRB, the depth of a particular waterway could potentially limit C2.

The riverine craft currently in use in Iraq are not the long term solution. They were worn out before the Navy got them. Ultimately, the current PRB's will all have to be replaced. All of the craft are light and fast, which helps survivability, but if a significant fight breaks out, they are vulnerable if they cannot break contact quickly. The craft planned for purchase are less able to conduct tactical insertion and extraction so there is room for concern. With the current configuration of the riverine squadrons, there is little incentive to maintain craft with enhanced embarkation capability. A recurring operational requirement for troop carrying capacity is to ensure the correct craft are developed and fielded.

Marine Corps

The SCMAGTF Marines will deploy with standard personal equipment. The aviation element would be task organized and could consist of a combination of V-22's, CH-53's, UH-1Y's, KC-130J's, and F-35B's.

The CLE would have a standard logistics package tailored to the requirement as well as engineering equipment, robust medical and dental capabilities for Civil Affairs operations.

Standard equipment packages not required for the security cooperation mission would be staged at the FOB or alternative equipment could be used from Maritime Prepositioning Fleet (MPF).

Leadership

Navy

The focus of the United States Navy since Mahan has been forward power projection of sea power, mainly through capital ships such as battleships, carriers and submarines.

The U.S. Navy today sees itself almost exclusively as an extension of the Navy of the Cold War. This is understandable: the Cold War lasted for over four decades. That long period saw the formative experience of the current generation of naval officers and their civilian colleagues. Not only that, it also was the predominant experience of the generation that served *before* them, and that educated and trained today's Navy (Swartz and McGrady 1998, 1).

Today's admirals and civilians within the Navy have spent their entire careers fighting for funding to accomplish this strategic task and employ the fleet successfully. "The fundamental focus of the Cold War Navy, high-intensity warfighting, has often led to SSC and OOTW being seen as lesser cases of the Navy's warfighting mission (or sometimes as Coast Guard responsibilities)." (Swartz and McGrady, 1998, 5) This perspective is evident in riverine doctrine and in the draft of craft designed for the mission. This particular perspective within the Navy may be the gravest threat to institutionalizing the riverine capacity. Congress even believes that oversight is required to ensure "the Navy is devoting sufficient attention and resources to riverine warfare" (O'Rourke, 2006, 6).

The Marine Corps and the Army are currently undergoing doctrinal and organizational changes to become more multi-faceted. Field Manual FM-3.0, the army capstone document for operations is a prime example of its adaptation to respond to the variety of threats posed in the current and future outlooks. The army is attempting to transform organizationally to accommodate future threats as well. The Marine Corps is

expanding and establishing the Security Cooperation MAGTF for the same reasons. Recently, Secretary of Defense Gates demanded more flexibility and participation from the Air Force in the current fights and future threats. The reality is that the Navy will have to do the same and the NECC is one possible option to expand its role in the future with no immediate comparable threat on the high seas. Navy leadership will have to accept this reality for the long term funding and survival of the Riverine Group.

The question about the Navy leadership commitment to the riverine force is the central issue that will determine its long-term success. The admiralty will have to be sold, so to speak, on the value of the riverine force to institutionalize it. They will have to see that the riverine force is supporting the Navy's Operational Concept and that it is bringing sustained credit to the Navy.

Marine Corps

The Long War Concept will be institutionalized because the Marine Leadership understand the importance of support of the Naval Operations Concept. Forward Presence ashore is part of the Marine ethos. The Department of the Navy and OSD support implementation because the concept fulfills the Marine Corps support of National Strategy in every aspect.

Support from higher headquarters usually means that funding for the program will follow. There are no significant equipment purchases to effect the Long War Concept that have not already been programmed. As a result, funding will be for training and actual operations. Consistent funding, support from higher and support of the Marine leadership simplifies the transformation. Fortunately, the Long War Concept does not have the institutional opposition facing the Navy's riverine force.

Personnel

Navy

Officer

The Navy plan to source officers for the riverine force is to re-assign officers is a stop-gap measure to get the program operating. According to the Riverine CONOP:

A new capability and mission set may require changes in leadership and personnel organization. Should the scope of the force, or its interrelationships with other initiatives, warrant it, the Navy may consider developing a new officer and/or warfare community for expeditionary units like the Riverine Group. Current leaders have assigned the Surface Warfare and Special Operations Communities as the leadership of the Force. The specific needs and specialized training that is necessary for this Force is should be easily transferable within a subset of the Navy that includes the Special Warfare Combat Craft, Explosive Ordnance Disposal, Expeditionary Salvage, Mobile Security Force, and Naval Coastal Warfare communities. Since these skills are needed in each of the above areas, but not necessarily needed in the conventional Navy, the specialized community would preserve the desired skill set and build upon knowledge gained through experience. (U.S. Navy, 2006, 48)

In a January, 2008 article submitted to Proceedings, a Navy professional magazine, a Navy Lieutenant takes issue with the initial plan.

As a department head, a SWO [Surface Warfare Officer] can only be billeted to a riverine job after completing one tour on a conventional surface combatant and qualifying as a tactical action officer. The idea of the Navy developing a specialized cadre of riverine officers is absurd, despite no shortage of willing officers currently serving in these billets. The aim of a SWO is to command a ship-of-the-line, a cruiser, or maybe a sleek guided-missile destroyer. Most of the officers in the Riverine Group are SWOs. The others are EOD/special operations officers.

The SWOs, both those on division-officer tours and those serving during their department years, serve 18 months at most. Considering that the initial proposed pipeline of training for a riverine squadron to deploy is more than six months long, it hardly seems feasible that any substantial expertise in riverine warfare is being developed among the officer corps when it is not a closed-loop community. (Hancock, 2008, 44)

The short-term answer for riverine officers is not going to develop a specialized cadre of riverine officers. The problem is that there is no current plan to establish an officer professional development track that is legitimate with the rest of the Navy. Navy

officers spend a tour in the riverine force and then return to their primary MOS. It is virtually impossible to develop and maintain a degree of proficiency in riverine operations with eighteen months of service.

Additionally, since the majority of officers in the RIVGRU are Surface Warfare officers, the style of leadership that they bring to the squadrons is not necessarily a style that works in the riverine environment. Navy leadership aboard ships on the “Blue Water” is not normally the same as what is often required in a close in fight. There is a great difference between the historic Navy style of segregated officer’s areas and the extreme formality of shipboard life. The wardroom and the Captain’s quarters don’t exist at a filthy forward operating base. It is not a bad leadership style, it simply is different from the style required on the ground. It takes time to learn and adapt. With only eighteen months to get it right, this may not be possible.

As discussed in general in the Training Section, specific requirements for officer training take an extended period to accomplish. The Marine Corps or Army does not take a new artillery Captain and send him to an infantry battalion to be a Company Commander. It takes years of training and experience as a junior officer to learn the details required to fight in the Land Component Commander’s battle space. It takes long term study to understand the idiosyncrasies of the terminology and normal operating procedures of adjacent ground units. The current officer fielding policy for the riverine force cannot succeed unless a closed loop professional development program is instituted.

Enlisted

NECC can source enlisted personnel from the standard Navy MOS structure. The typical sailor who has MOS credibility will have little difficulty transitioning to the

smaller brown-water platform. Technical expertise in boat driving and maintenance is resident in the Navy. The remainder of the squadrons' enlisted support personnel do not require additional training to perform their MOS tasks within the RIVGRU and RIVRONs. See Table 4 (p. 96) for specific Navy enlisted MOS's. The inner-Navy compatibility between MOS's is a benefit for the riverine program. It means that enlisted riverine squadron mates do not have the same career path difficulties as are present in the officer corps.

Marine Corps

As depicted in the organization section, Marine battalions conducting SCMagTF operations will maintain a sustained one to two, deployed to dwell ratio. Deploy to dwell is the relationship between an individual's time at home verses his time deployed. This coincides with the NECC and RIVGRU desired deploy to dwell steady state.

“Regional expertise is being considered for regiments that habitually provide forces for SC MAGTF. This will be realized through the staffing of FAO, RAO, and linguist personnel, as well as vectoring of native speakers to these regiments, while also facilitating cultural training through CAOCL and other venues. This will further be facilitated by the new advisor concept which will provide a trained advisor cadre to conduct security assistance in these foreign countries.” (Long War Concept Brief Unclass Final 2008, 23) The legitimization of the FAO, RAO professional development track is an institutional benefit to Marines and will have benefit for the SCMagTF's. The advisor concept is training junior officers who have served in a particular region with comprehensive cultural and language schools so that they can return to that region with established relationships to serve as the area liaison with the MAAG. Upon completion

and a follow on school tour, those same Marines would return to the regiment where they started and begin company command tours with a fundamental understanding of the language and culture of the area where they will work. This concept clearly supports the National Defense Strategy, aids the NOS method of cultural awareness, and supports the long term development of the Marine.

Facilities

Navy

The NECC home facilities are located at Naval Amphibious Base Little Creek, Virginia. They are adequate for current operations, maintenance and training and are not critical to this study. Additionally, operations in Iraq are being conducted from sites previously established by the Small Craft Company and Dam Security Units. They are satisfactory for the conduct of operations and are not critical to this study.

The more important facilities issue is a possible basing option for sustained operations in support of Theater Security Operations in the future. As previously mentioned, the Navy has instituted a concept of seabasing called Global Fleet Station.

GFS [Global Fleet Station] is a persistent sea base of operations from which to coordinate and employ adaptive force packages within a regional area of interest. Focusing primarily on Phase 0 (shaping) operations, Theater Security Cooperation, Global Maritime Awareness, and tasks associated specifically with the War on Terror....From its sea base, each GFS would serve as a self contained headquarters for regional operations with the capacity to repair and service all ships, small craft, and aircraft assigned. (Naval Operations Concept, 2006, 30)

Global Fleet Station provides a potential location from which riverine forces can conduct Theater Security Cooperation missions. As stated in the Naval Operations Concept, GFS could serve as an operating base for a RIVRON training a host nation riverine force. This concept may, depending on GFS location, allow for sustained

Security Cooperation with minimal degradation of riverine assets because the sea base would afford maintenance and re-supply capacity greater than an improvised outpost in a “Gap” area nation.

Marine Corps

There is no change in the requirement for facilities at Marine home stations. Deployed operating bases will need to be established. The first location is the Forward Operating Base. The FOB will be large enough to consolidate the SCMAGTF with facilities for repair and transportation to and from the rest of the area of operations. One suggested location to support SCMAGTF AFRICOM is Rota, Spain, to provide a reference.

Cooperative Security Locations (CSL) can be less improved and would not need to be manned at all times. These are the locations where SCMAGTF Marines will establish local security cooperation operations and possibly stage equipment and supplies. Since the units occupying the CSL's may be very small, there are a multitude of options for how to locate these positions. Obviously, the host nation will have major input into the selection of these sites.

Global Fleet Station will be used by the Marine Corps. The prevailing view is that if the Marines do not use GFS, the army will. The Marine institutional paranoia of losing relevance to the army will demand that GFS is used to the maximum extent possible. As with the Navy use of GFS, the benefit is that the sensitivities of Marine presence can be mitigated by billeting on the GFS and flying in to work.

CHAPTER 5

RECOMMENDATIONS AND CONCLUSION

Conclusions

Chapter One presented several questions that formed the basis of research for this thesis. The Conclusion will review those questions and provide answers based on the research and analysis conducted.

The first question to consider is whether or not the current U.S. Navy program is satisfactory for current and future requirements. The riverine force is not now and will not be a force of the same size and capacity as in previous conflicts like the Civil War or Vietnam. It is currently required to perform one single mission on the Euphrates River in Iraq. The Navy has fielded three squadrons of craft and crews to accomplish this point security mission. It has relevant doctrine for that mission, as well as sufficient organization, craft and equipment, personnel, and facilities. Due to the limited threat currently in Iraq, it can manage with its limited training.

The Navy riverine force is not satisfactory for future operations. At the operational level, doctrine is disconnected from the Naval Operating Concept, especially in the area of interoperability. Personnel issues, in particular lack of professional development for officers will inhibit correction of the interoperability issue due to constant turnover.

As a whole, the Navy's riverine organization is too small for anything but limited operations. In terms of organization, the squadrons are well organized. There is substantial staff to plan and conduct liaison with adjacent ground forces, robust support is available from NECC, and the Detachments configuration in mutually supporting, two

section units is satisfactory. The MIO teams have limited value. They are too small to influence anything other than small boat inspections. Finally, the lack of a true ground combat element is a weakness. The structure of the RIVGRU and RIVRON's as currently organized can conduct only limited independent operations.

Training inadequacies are another inhibitor to satisfying future requirements. Closely tied to the doctrinal and personnel issues, leader training is not established to allow independent action in a ground commander's battle space. Operations on open water with little contact with ground forces or completely independent operations without significant threat are the limitations of utility. Until small unit riverine leaders have the requisite knowledge to operate in the riparian, riverine forces will not be able to conduct independent operations in the vicinity of ground forces.

The Navy leadership is the greatest concern for the future viability of the riverine force. Once the Supplemental Funding for Iraqi Freedom ends when forces draw down, the military budget will shrink and the Navy will look for programs to cut to save the remainder of the fleet. The non-traditional, limited, non-institutionalized riverine force will be high on that list.

Chapter One also asked whether or not there are anticipated employment opportunities in which planners expect a significant military presence both now and in the future and whether there were opportunities to sustain the operational need, preventing program atrophy. A related question asked whether there is utility for land component command utilization of a riverine force to ensure continued relevancy. Chapter Four has shown that there are definite employment opportunities now and in the future. As discussed in the opening chapter, the strategic environment has significantly

changed and subsequently, so has the National Defense Strategy to respond to it. The Naval Operations Concept tasks the naval forces to conduct Security Cooperation to develop sustained relationships with friendly host nations. The riverine force is doctrinally most suited for Theater Security Operations. The RIVGRU or individual RIVRONs could operate independently and, using what small capability they have, could conduct short duration operations that do not really meet the intent of persistent presence espoused by the National Defense Strategy. Nevertheless, that does nothing but conform to the QDR requirement in a literal sense. That is not a commitment. There are other options. There are land component commander requirements for the riverine forces currently in Iraq and for those that support of SOUTHCOM security cooperation operations in South America.

Conclusion

The Primary Research question asks how to institutionalize a riverine force relevant to today and in the future. The answer to this question should lead to an institutionally accepted and relevant riverine force that provides a part of U.S. naval forward presence. The answer is that the riverine force should conduct integrated operations with the Marine Corps Security Cooperation Marine Air-Ground Task force.

Navy riverine doctrine supports the Naval Operating Concept strategic objectives. The doctrine as a whole, however, exposes Navy interoperability issues at the operational and tactical levels. Tactical level doctrine is sound but fails to recognize the riparian area as a significant aspect of the riverine operating area as evidenced by the lack of definition of the riverine area, and the lack ground integration in METL's. The Marine Corps can provide the integration and refinement of doctrine from within the joint construct of the

SMTC, where the Navy, Coast Guard and Marine Corps work on riverine doctrine already.

The Long War Concept, in particular the SCMAGTF supports the Navy Operating Concept across the spectrum of traditional and new missions. Since the primary riverine mission of Theater Security Cooperation complements the mission of the SCMAGTF, they should be able to integrate and enhance each other's capacity to conduct Security Cooperation.

The Marine Corps would benefit from the addition of alternative lines of communication for its force spread out over an Area of Operations. The Navy would benefit from the integrated aviation resident to the MAGTF as well as from the ground combat element potential.

The specific command relationship should be constructed as follows. Squadrons, using their current configuration, would report to the MAAG in the same way that the SCMAGTF does. The MAAG would coordinate operations between the riverine requirement and SCMAGTF. The headquarters element could position itself wherever it is needed for command and control and the detachments would be separated to each of the three SCMAGTFs. The SCMAGT GCE would support the Detachment by attaching a GCE for the duration of the deployment.

NECC would support the squadron by augmenting the riverine force with Civil Affairs, EOD, MESF for facilities security, or any of the other components that fall under the NECC.

Additional units may be attached to or integrated with a riverine squadron or squadrons to form a riverine task group. The riverine task group could include: helicopter squadrons, vessels assigned as Sea Bases or other support, and Combat Service Support, communications, logistics, or Force Protection detachments (U.S. Navy 2006, 27).

The RIVGRU rotation pattern would mirror the Marine Regiments. One squadron would support the three SCMAGTF's for one cycle, then the second, then the third, so that permanent relationships would be established. Additionally, mirroring the one to two deployment to dwell ratio would satisfy the NECC deployment cycle requirements.

Ground operations familiarity and GCE integration would be enhanced by joint training in preparation for deployment in the same way that MEU's and Expeditionary Warfare Groups conduct unit training followed by integrated training.

Implementation of the Navy Language Skills, Regional Expertise and Cultural Awareness (LREC) strategy provides an opportunity to establish a professional development career path for officers. NECC officers with Riverine officers included could mirror the Marine advisor plan as one of the joint members of the MAAG to support the Riverine Squadron and SCMAGTF security cooperation program. Junior Navy officers would serve as Division Executive Officers or Boarding Team Leaders during first and second tours followed by Detachment Command or Squadron staff assignments and time supporting NECC schools as instructors. Following these tours, appropriate level school would be provided with emphasis on advanced regional language immersion and cultural study. Upon completion of school, Navy officers would become advisors for the riverine component of the Persistent Theatre Security Cooperation program of which the SCMAGTF is a component.

Lastly, the riverine squadrons have limited utility conducting independent operations and cannot conduct sustained operations because of their small size. Integration with the SCMAGTF will provide a support structure to increase utility as well as provide a framework for sustained employment. If the integration is successful and the requirement for the riverine force grows, the force will have to be grown to satisfy demand. Leadership should take notice of sustained success. With sustained mission success, come accolades from higher. Just as OSD demanded a riverine force in the QDR, so it should want more if demand increases. With that tasking should come the funding to institutionalize the force.

The Quadrennial Defense Review 2006 assigns responsibility for the fielding of a riverine force to the United States Navy. However, due to some of the shortfalls of the Navy program and the complimenting strength of the Marine Corps, the Department of the Navy in total is better suited to institute a comprehensive riverine capability.

“The Naval Service, and the nation, is well served when we follow their example of teamwork guided by open and frank discussion. The changing operational environment requires that we eliminate redundancies and forge greater interdependence between us.” (Naval Operations Concept, 2006, 3) The Navy should integrate Riverine Squadrons into Security Cooperation MAGTF’s to ensure its lasting relevance.

Overall, the RIVGRU faces severe challenges to institutionalizing riverine capability in the Navy. Doctrine will evolve with the experience of daily operations, new craft will replace the worn out boats of today, and Sailors will adapt and work for mission success. The greatest issue for the riverine force is the leadership. Navy leadership has to approve and champion expenditures for new craft. They have to

establish and support an officer professional development program that will allow officers to make a career out of “brown water” service. That can only happen if the riverine force becomes a valuable support of the Navy Operational Concept. Failure to do so will relegate the force to the fate of riverine forces of the past.

Recommendations for Further Study

Due to the limits of this thesis and some of the issues that brought to light, there are opportunities for further study with respect to riverine operations.

Future study should address the questions of:

How The Navy institutes an officer professional development track that supports the institutional longevity of a riverine force.

What organizational size is appropriate for the institutionalized riverine force.

GLOSSARY

Beam. The width at the widest point of a watercraft.

Blue Water. Navy colloquialism for the ocean and sea operating environment.

Brown Water. Navy colloquialism for the riverine environment.

Coxswain. Driver of a boat.

Draft. The depth of water that a vessel requires to float freely; the depth of a vessel from the water line to the keel.

Foreign Internal Defense (FID). Participation by civilian and military agencies of a government in any of the action programs taken by another government or designated organization to free and protect its society from subversion, lawlessness, and insurgency. (DOD definition)

Forward Operating Sites. Scalable facilities intended for rotational use by operating forces that can support a range of military operations on short notice. They may have a small permanent presence and often house pre-positioned equipment. (USMC definition)

Green Water Navy colloquialism for the littoral operating area.

Ground Combat Element (GCE). The core element of a Marine air-ground task force (MAGTF) that is task-organized to conduct ground operations. It is usually constructed around an infantry organization but can vary in size from a small ground unit of any type, to one or more Marine divisions that can be independently maneuvered under the direction of the MAGTF commander. The ground combat element itself is not a formal command. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Irregular Warfare. The violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). Irregular warfare favors indirect and asymmetric approaches, though it may employ the full range of military and other capacities, in order to erode an adversary's power, influence, and will. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Littoral. The littoral comprises two segments of battlespace: 1. Seaward: the area from the open ocean to the shore, which must be controlled to support operations ashore. 2. Landward: the area inland from the shore that can be supported and defended directly from the sea. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

MAGTF. The Marine Corps principal organization for all missions across the range of military operations, composed of forces task-organized under a single commander capable of responding rapidly to a contingency anywhere in the world. The types of forces in the Marine air-ground task force (MAGTF) are functionally grouped into four core elements: a command element, an aviation combat element, a ground combat element, and a combat service support element. The four core elements are categories of forces, not formal commands. The basic structure of the MAGTF never varies, though the number, size, and type of Marine Corps units comprising each of its four elements will always be mission dependent. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Riparian. Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Riverine area. An inland or coastal area comprising both land and water, characterized by limited land lines of communication, with extensive water surface and/or inland waterways that provide natural routes for surface transportation and communications. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Riverine Operations. Operations conducted by forces organized to cope with and exploit the unique characteristics of a riverine area, to locate and destroy hostile forces, and/or to achieve or maintain control of the riverine area. Joint riverine operations combine land, naval, and air operations, as appropriate, and are suited to the nature of the specific riverine area in which operations are to be conducted. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

Seabasing. The rapid deployment, assembly, command, projection, reconstitution, and re-deployment of joint force combat power from the sea, while providing continuous support, sustainment, and force protection to select expeditionary joint forces without reliance on land bases within the Joint Operations Area (JOA). These capabilities expand operational maneuver options, and facilitate assured access and entry from the sea. (Seabasing Joint Integrated Concept v 1.0 definition)

Security Cooperation (SC). All Department of Defense interactions with foreign defense establishments to build defense relationships that promote specific US security interests, develop allied and friendly military capabilities for self-defense and multinational operations, and provide US forces with peacetime and contingency access to a host nation. (Chairman of the Joint Chiefs of Staff As amended through 04 March 2008)

APPENDIX A

FIGURES

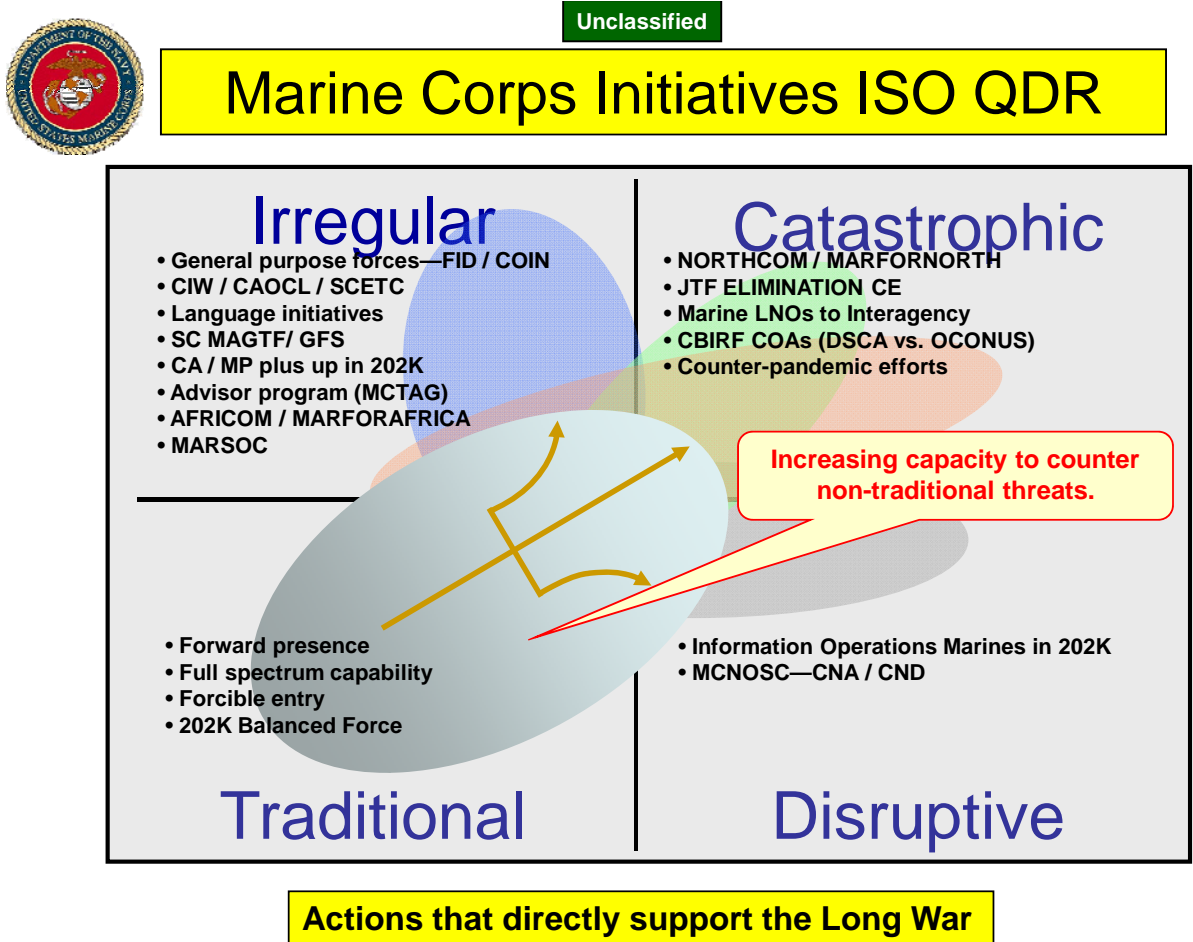


Figure 1. USMC initiative in support of QDR (Long War Concept Brief 2008, 7)



Unclassified

Persistent & Episodic Engagement

Complementary to a Joint, Combined, & Interagency Effort

Creative force employment and increased capacity enables global sustained forward naval presence

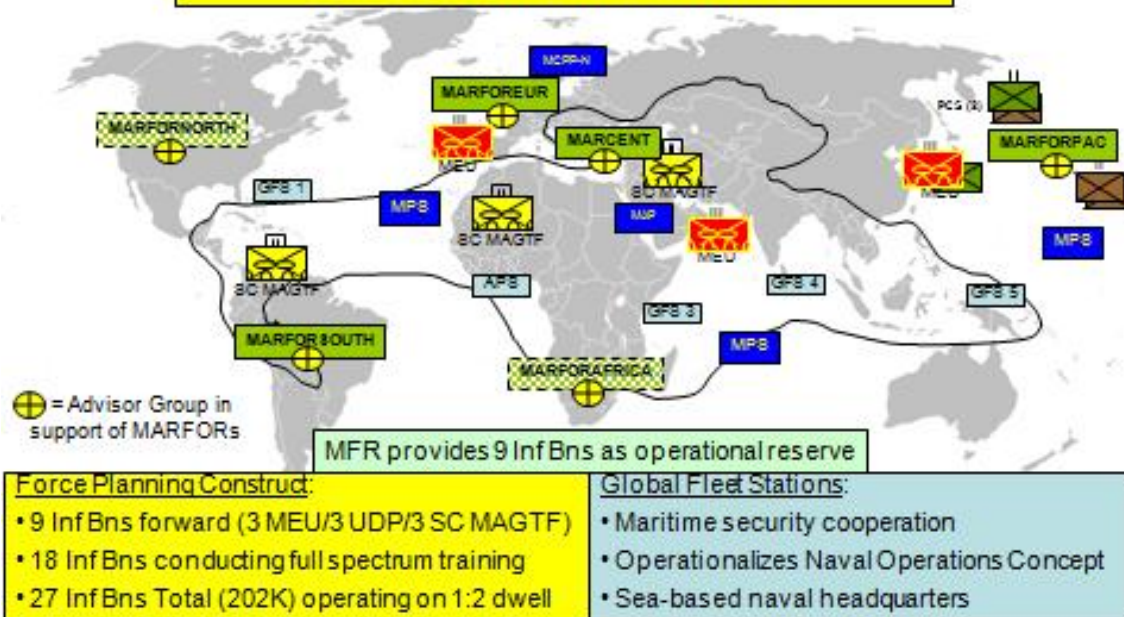


Figure 2. LWC Force Laydown (Long War Concept Brief Unclass Final 2008, 9)

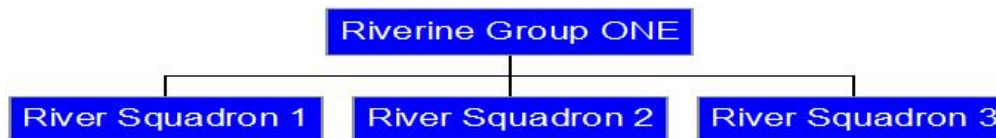


Figure 3. Riverine Group Organizations (U.S. Navy 2006)

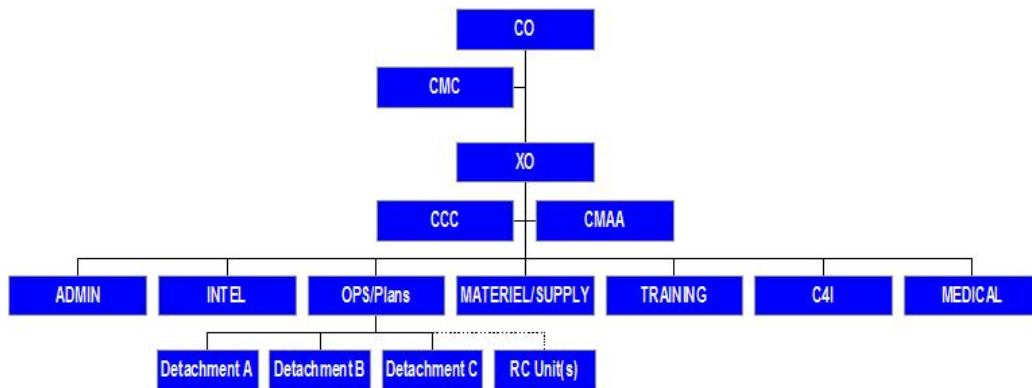


Figure 4. Riverine Squadron Organizational Chart (U.S. Navy 2006)

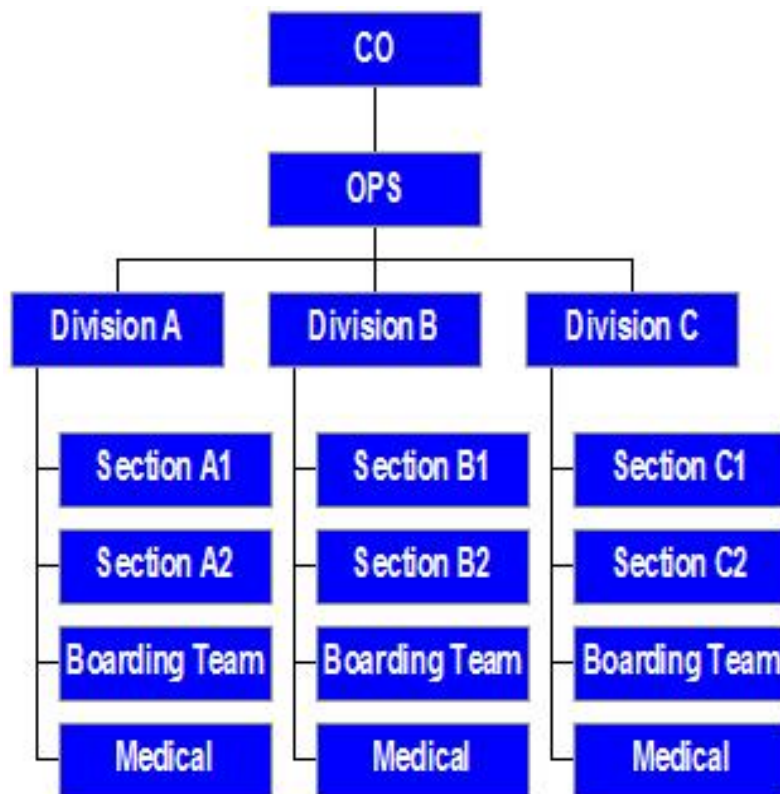


Figure 5. Riverine Squadron Detachment Organizational Chart (U.S. Navy 2006)

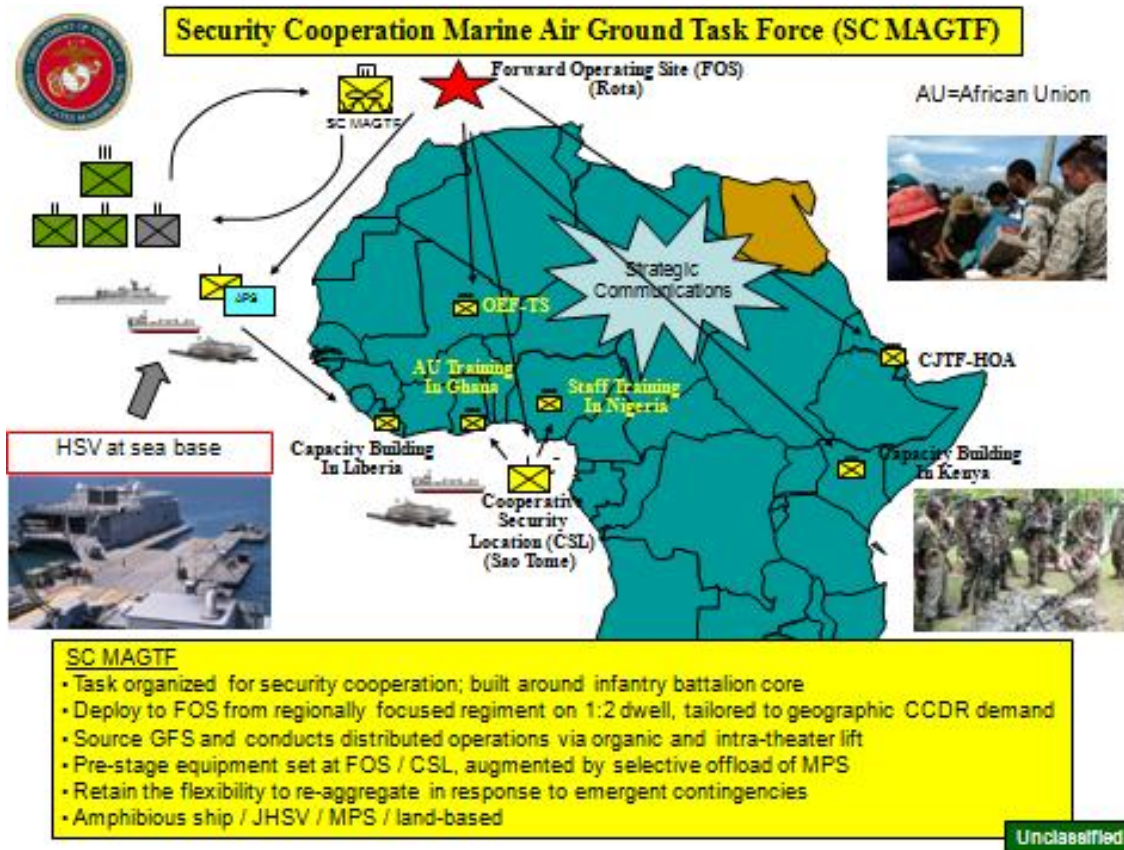


Figure 6. SCMAGTF deployment example (Long War Concept Brief Unclass 2008, 13)



Figure 7. SURC (PRB) Patrolling the Euphrates River, Iraq, 2006.



Figure 8. USMI 33' Riverine Assault Boat
Source: (United States Marine, Inc. n.d.)



Figure 9. Safe Boat's 49' Riverine CB-90 Command Boat
Source: (Safe Boats International, LLC n.d.)



Figure 10. Marine SURC partially sunk after hull puncture on rocks

APPENDIX B

TABLES

Table 1. Riverine Mission Essential Task List						
Navy Tactical Task	Navy Mission Essential Task List	Type of Operation				
1.1.2.3	Move Units	X	X	X	X	
1.1.2.3.7	Conduct convoy operations	X	X	X	X	
1.1.2.3.9x	Conduct small boat operations	X	X	X	X	
1.1.2.4	Conduct tactical insert/extract		X		X	
1.2	Navigate and close force	X	X	X	X	
1.4.6	Conduct maritime interception	X	X			
1.4.7	Enforce exclusion zone	X		X		
1.5.5.4.1	Secure an area	X	X	X	X	
1.5.5.6.1	Conduct patrols	X	X	X	X	
2.1.3	Conduct collection planning and deception		X			
2.2	Collect data and intelligence	X	X	X	X	
2.4.4.4	Evaluate threat	X	X	X	X	
2.5	Disseminate and integrate intel	X	X	X	X	
3.1.1	Request attack	X	X	X	X	
3.1.5	Conduct tactical combat assessment		X		X	
3.2	Attack targets	X	X		X	
3.2.8.2	Illuminate/designate targets	X	X		X	
3.2.9	Conduct nonlethal engagement	X	X		X	
4.12.1	Perform Triage	X	X	X	X	
4.12.11	Provide medical support staff	X	X	X	X	
4.12.2	Provide ambulatory health care	X	X	X	X	
4.12.5	Coordinate patient movement	X	X	X	X	
4.12.9	Train medical and non-medical personnel	X	X	X	X	
4.3	Repair/maintain equipment	X	X	X	X	
5.1.1.1	Transmit and receive information	X	X	X	X	
5.2.1.2	Review and evaluate mission guidance	X	X	X	X	
5.2.1.3	Review rules of engagement	X	X	X	X	
5.3	Plan actions and operations	X	X	X	X	
5.4.4	Establish liaisons	X	X	X	X	
6.1.1.1	Protect individuals and Systems	X	X	X	X	
6.3.2.1	Manage enemy POW's	X	X		X	
6.3.3	Combat terrorism	X	X	X		

Source: U.S Navy, 2007, 1-4

Table 2. PRB Specifications	
LOA with transom platform	38'
Beam	10' with collars removed for C130 transport
Capacity	15 troops, 5 crew
Propulsion	Twin Yanmar 6LY2A 440 BHP at 3300 RPM ZF280 reduction gear Capable of operating on JP-5, JP-8, and maritime diesel #2
Speed	Above 35 knots loaded
Acceleration/Turning	Accelerate to 25 knots in less than 15 seconds 180 degree in less than three boat lengths
Transportability	C-130 internal and CH-53 external
Draft	24 inches static 9" on plane
Range	Greater than 250 nautical miles
Operating Environment	Air temperature from 20 to 125 degrees F in fresh, salt, and brackish water temperatures ranging from 33 to 95 degrees F Fully operational in Sea State 3
Hull	Aluminum 5086 with full length breaching plates Polyethylene foam collar provides stability, redundant buoyancy, and small arms ballistic protection. Not subject to puncture or deflation
Weapons	3 mounts for heavy machine guns GAU-17 M240G M-2 Mk-19

Source: Safe Boats International, LLC n.d.

Table 3. RAB Specifications	
LOA	33'
Beam	8' 11 ¾"
Power	Twin 440 HP Yanmar STP6LY Diesel Engines
Drive	Twin Hamilton HJ292 Waterjets
Fuel Capacity	250 U.S. Gallons
Armament	5 weapon stations; ballistic protection

Source: (United States Marine, Inc. n.d.)

Table 4. RCB Specifications	
LOA w/ transom platform)	49'
Beam	12' 5"
Capacity	21 troops 4 crew
Propulsion	Twin diesel engines with twin Rolls-Royce Kamewa FF-410 Waterjets capable of operating on JP-5, JP-8, and marine diesel #2
Draft	36"
Range	Greater than 320 nautical miles
Optional armor protection	Up to 7.62 Nato Ball

Source: (Safe Boats International, LLC n.d.)

Table 5. Enlisted Personnel Riverine Compatibility	
Boat Crew Compatible MOS's	Enlisted Riverine Support MOS's
Additional Riverine Specific Training Required for Operational Proficiency	No Additional MOS Training Required
BM Boatswain's Mate	YN Yeoman
EN Engineman	IS Intelligence Specialist
GM Gunners Mate	CTO Cryptologist
HM Hospital Corpsman	OS Operations Specialist
HT Hull Technician	CM Construction Mechanic
ET Electronic Technician	EO Equipment Operator
	QM Quartermaster
	BU Builder
	SK Storekeeper
	IT Information Specialist

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